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ABSTRACT

Major conclusions highlighted in the summary of the 1980-81 ESEA Title I evaluation of the Austin (Texas) Independent School District are: using Title I and local funds to lower pupil/teacher ratios to 15:1 produced an effective compensatory education program: across grades, low-achieving students benefited more from lower pupil/teacher ratios than higher-achieving students: lowering the pupil/teacher ratio had a greater effect on quality of instructional time than on quantity of instructional time: schoolwide project teachers believed that project effectiveness would cease if pupil/teacher ratios exceeded 18:1: there was no evidence of a consistent, positive impact of the regular Title I Program on student achievement: by first grade, former Title I prekindergarten students were no longer scoring higher than their classmates; parents appreciated having specific, planned instructional activities to do with children at home: and Summer At-Home Program participants did not achieve more than their matched controls. The purpose, procedures, results, and appropriate communications, instructions and data for 5 of the 13 instruments (Peabody Picture Vocabulary Test, Boehm Test of Basic Concepts, Metropolitan Readiness Test, Iowa Test of Basic Skills and Prekindergarten Observations) used to provide the evaluation data are detailed in separate appendixes. (NEC)

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FINAL TECHNICAL REPORT

1980-81 ESEA Title I Regular Program

Volume I

June 30, 1981

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80.71

ESEA Title I

FINAL REPORT SUMMARY

FINAL REPORT

Project Title: Title I

Contact Person: David Doss, Glynn Ligon

Major Positive Findings:

1. Students in schoolwide projects with a pupil/teacher ratio of 15 to 1 made impressive achievement gains.

    a. Low-achieving schoolwide project students gained the equivalent of two additional months of learning above the gains of comparable students in other schools.

    b. These gains were equivalent to a full year's achievement growth during 1980-81 compared to about eight months for comparable students.

    c. The high-achieving schoolwide project students made greater gains than comparable students at grades 3 and 5. At no grade did schoolwide project students score lower than the others.

    In addition, the teachers in schoolwide projects seemed to feel more in control of what happened to their students, and as a result, they felt more responsible for the success they saw them having.

2. Former Title I Early Childhood Program participants scored higher in basic skills upon entering kindergarten than the other students in their schools.

3. Parents were enthusiastic about working with their children on the Rainbow Kit activities. They requested more frequent activities and activities in other subject areas.

Major Findings Requiring Action:

1. The Title I Program does not seem to have a consistent, positive impact on student achievement across grades. Title I students outgained former Title I students currently attending non-Title I schools at grades 4 and 5. Former Title I students made greater gains at grade 1.

2. Wide variations occurred in the assignment of staff to Title I campuses. Base personnel costs per student served ranged from $214 to $486.

3. Total time spent in the basic skills/major content areas of reading/language arts, math, science, and social studies has decreased in Title I schools from the peak observed in 1977-78. The current levels are back to those observed in 1976-77. The area of reading/language arts has shown the same pattern as total basic skills.

4. The 1980 At-Home Summer Program did not significantly improve the achievement of participants compared to matched comparison students.

5. Title I pre-k students made smaller achievement gains this year than last year, but they still made above average gains.

6. While former pre-k students had scored higher than comparable students when entering kindergarten, they did not show an advantage when they entered first grade.

7. Classroom observations showed the ratio of time spent in reading and language arts to time spent in science and social studies to be about ten to one and eight to one respectively. On the average, AISD students spent about two hours and four minutes each day in reading/language arts, 39 minutes in math, 15 minutes in social studies, and 13 minutes in science.

Evaluation Summary:

ESEA Title I is the largest of the federally funded compensatory education programs. Its purpose is to provide supplemental instruction in the basic skills to low-achieving students in schools with high concentrations of children from low-income families. This year's Title I Program provided instruction to children in 24 District elementary schools, three nonpublic schools, and five institutions for neglected and/or delinquent children. In addition, Title I funded a home-based program for four-year-olds, all or part of nine prekindergarten classes, and a parental involvement component.

The future of compensatory education in Austin and the nation has been clouded by the recent change of administrations in Washington. It appears that the concept of block grants may provide school districts with greater flexibility in how compensatory programs are structured, but it also appears that the resources provided will diminish. Such a situation makes it imperative that the District begin now to plan a program that takes advantage of decreased regulation to provide a maximally effective program for our disadvantaged students.

Current findings which seem to have contributions to make to such a program are highlighted throughout this summary.

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The results below are summarized by program components. Greater detail can be found in the 1980-81 ESEA Title I Technical Report, publication number 80.71.

TITLE I SCHOOLWIDE PROJECTS

WHAT ARE SCHOOLWIDE PROJECTS?

In most cases Title I instruction must be supplemental and may not supplant instruction that would normally be provided by the local district; i.e., Title I instruction must be above and beyond what other students in the school or in the district receive. Also, students must be identified for service using an objective assessment of academic need before they can be served. However, when the concentration of children from low-income families at a school exceeds 75%, the supplement-supplant provisions of the law may be relaxed.

Two AISD schools, Allison and Becker, met the 75% criterion in 1980-81. Title I and required matching local funds were used to reduce the pupil:teacher ratio to 15:1 in these schools. Figure 1 describes some of the major differences between the schoolwide projects and the regular Title I Program in AISD.

SCHOOLWIDE PROJECTS	REGULAR TITLE I SCHOOLS
1. Title I instruction is not identifiable as something apart from or supplemental to the foundation school program.	1. Title I instruction must be separate from and supplementary to the foundation program.
2. Teachers paid from Title I funds function as regular classroom teachers. They teach all subject areas.	2. Teachers paid from Title I funds act as supplemental reading teachers.
3. No students are identified to receive Title I instruction. The "Title I" teachers have classes of students of mixed achievement levels who do not differ from those of other teachers. No additional record keeping is required.	3. Students are identified and selection based on their achievement test scores. Title I teachers must serve only identified students and only in reading. A certain amount of time is spent in student selection and record keeping.
4. The pupil:teacher ratio is 15:1 for the entire school day.	4. The pupil:teacher ratio during Title I instruction (usually about 30 minutes a day) is a maximum of 8:1 for a teacher alone or 15:1 for a teacher and an aide.

Figure 1. SOME CHARACTERISTICS OF THE SCHOOLWIDE PROJECTS AND THE REGULAR TITLE I SCHOOLS.

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HAVE THE SCHOOLWIDE PROJECTS BEEN EFFECTIVE IN RAISING STUDENT ACHIEVEMENT?

Yes, clearly. One side effect of the current desegregation plan was that over 2,200 students who were served in Title I in 1979-80 were assigned to schools this year that did not have a Title I program. The students at Allison and Becker were compared with students from these former Title I attendance areas and with students in regular Title I schools who live in traditional Title I attendance areas.

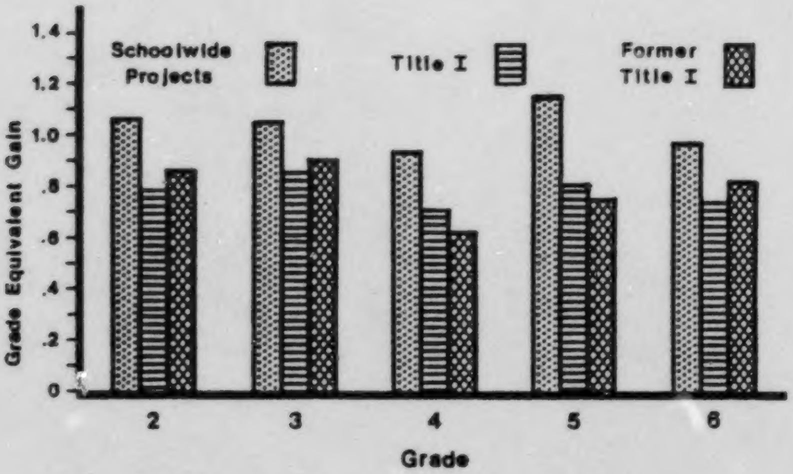

Figure 2. AVERAGE GRADE EQUIVALENT GAINS FOR SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS, AND FORMER TITLE I STUDENTS NOW IN SCHOOLS WITHOUT TITLE I. Students scoring below the 40th percentile on the pretest.

First, students scoring at or below the 40th percentile were compared. Figure 2 shows that *the schoolwide project students consistently outscored low achievers in both comparison groups.* On the average, they gained about two months more than the others from the pretest in April, 1980, to the posttest in April, 1981. More importantly, their gain was equal to one year's growth, 10 grade equivalent months. Normally, low-achieving students from low-income neighborhoods make only about a seven to nine month gain from spring to spring.

To state the results another way...

> . . .the achievement gains of low-achieving students in schoolwide projects were 25% greater than those of similar students served by the regular Title I Program. Over the school year, this approximates two additional months of instruction.

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WHAT ABOUT HIGHER ACHIEVING STUDENTS IN THEIR SCHOOL?

Unfortunately, the same consistent pattern from grade to grade was not seen for students scoring above the 40th percentile. The schoolwide project students showed meaningfully greater gains only at grades 3 and 5.

It appears that the schoolwide projects benefit the lower-achieving students more than the higher-achieving ones.

It must be noted that the results for grades 1 and 2 at Becker have not been used in reaching these conclusions about achievement gains. The pattern of results obtained at these grades at Becker is unusual. Additional analyses and a thorough discussion with the principal have not produced a satisfactory explanation of why first graders have made very large gains, but in second grade their gain has been so small. At the end of the second year, their scores resemble the scores of similar students in other schools.

WHAT MIGHT ACCOUNT FOR THE SUCCESS OF THE SCHOOLWIDE PROJECTS?

How students spend their time and the amount of time they spend in instruction is important to learning. In order to look at how time was used in schoolwide projects compared to other settings, 352 formal, day-long observations were conducted in AISD schools at grades 2 and 5 this year, including 120 in schoolwide projects. Not surprisingly, the largest differences between schoolwide project students and others were related to group size. On the average, they worked in smaller groups than others, and spent much less time working in groups of 18 or more. They had more minutes of contact with their classroom teachers than students in other schools, and they also seemed to have slightly more reading instruction than students in Title I schools or schools with former Title I students. However, the difference in reading instruction was only about five to eight minutes a day.

The lack of dramatic differences between the groups in time use suggests that the schoolwide projects had a greater effect on the quality of instruction time than on its quantity.

Interviews revealed the Title I teachers, most of whom had worked previously as Title I reading teachers, to be enthusiastic supporters of the lower pupil:teacher ratio approach to Title I instruction. They generally saw all aspects of their jobs as improved. However, most improvements seemed to fall into one of three categories:

1. Improvements in Efficiency:
   - Routine tasks such as taking roll and grading papers took less time.

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- The number of discipline problems and the time devoted to handling them were reduced.
- The teachers believed they could make better use of instructional time by seeing reading groups more than once a day or by having more and smaller reading groups.
- There were fewer interruptions without a Title I pull-out program.

2. Improvements in the Quality of Time:
    - Teachers were able to better monitor the progress of each student. They believed that they could detect problems sooner and provide more and quicker corrective feedback.
    - An increased closeness between the teachers and their students was also reported. As they got to know their students better, they felt more effective in their teaching.
3. Improvements in Teacher Morale:
    - The greater closeness they felt with their students was rewarding in itself.
    - The teachers seemed to feel more in control of what happened to the students in their classes. As a result, they felt more ownership for the progress of their students, and they felt more responsible for the success they saw their students having.

Whatever the factors which contribute to the effectiveness of the schoolwide projects may be, the teachers believed that they would cease to exist with a pupil:teacher ratio above 18:1.

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THE TITLE I READING IMPROVEMENT PROGRAM

HOW WERE STUDENTS SERVED BY THE REGULAR TITLE I PROGRAM?

The regular Title I Program served 3776 students in grades K-6 on 22 campuses. Eligible students were provided supplemental reading instruction by Title I teachers and/or instructional aides. Instruction was provided in the regular classroom, in the reading center or lab, or in both places. Figure 3 compares the number of students served in each instructional arrangement in 1979-80 and 1980-81.

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	Number		Percent	
Students Served...	1979-80	1980-81	1979-80	1980-81
By Teacher Only	2,017	2,080	53	54
By Aide Only	679	438	18	11
By Both	1,120	1,308	29	34
In Lab Only	2,067	2,239	54	59
In Classroom Only	1,473	986	39	26
In Both	276	601	7	16
TOTAL	3,816	3,826	100	100

Figure 3. TITLE I INSTRUCTIONAL ARRANGEMENT, 1979-80 AND 1980-81.

An examination of the number of students served at a campus and the base salary costs for the teachers and aides placed on the campuses revealed a wide variation between campuses in the cost per student served -- from $214 to $486. About half of the variation is due to four factors. First, it is difficult to deliver a program at a low per-pupil cost when the number to be served is small. Second, the expenditures were based partly on a TEA requirement that greater amounts be spent at schools with higher percentages of low-income children. Third, some instructional arrangements required greater expenditures than others. Finally, at some schools the anticipated number of Title I students was greater than the number who eventually arrived leading to inflated pupil:teacher ratios. Regardless of its explanation, the wide variation in resource allocation from school to school would appear to be a problem worthy of serious consideration by the District.

The observation results for low-achieving students in Title I schools were compared to three groups: high-achieving students in Title I schools, low-achieving students on campuses with former Title I students but without Title I, and low-achieving students in schoolwide projects. The comparisons showed that low-achieving students on Title I campuses

> ...spent less time in their regular classroom and more time in the reading lab than students in other groups,
>
> ...had fewer minutes of contact with their classroom teacher than the low-achieving students in the schoolwide projects.
>
> ...had more minutes of contact with other teachers than the schoolwide project students and the high achievers in Title I schools,
>
> ...received no more reading instruction than the others, and
>
> ...may have spent more time off task than the schoolwide project students and the high-achievers in Title I schools.

Figure 4 shows that overall in Title I schools the total time spent in the basic skills/major content areas of reading/language arts, math, science, and social studies has decreased from the peak observed in 1977-78. The ratio of time spent in reading/language arts to the time spent in science and social studies is about ten to one and eight to one respectively. AISD students spent about two hours and four minutes each day in reading/language arts, 39 minutes in math, 15 minutes in social studies, and 13 minutes in science.

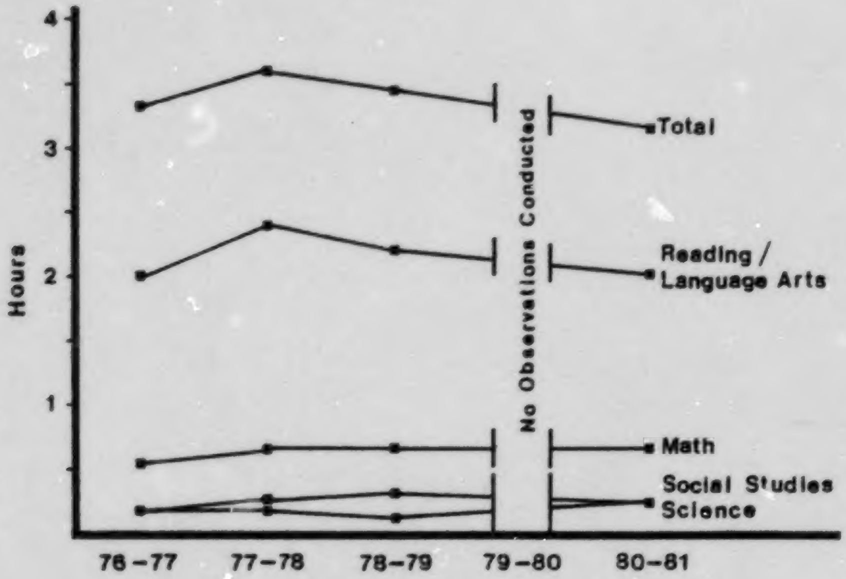

Figure 4. AMOUNT OF INSTRUCTIONAL TIME IN BASIC SKILLS IN TITLE I SCHOOLS.

DID THE REGULAR TITLE I PROGRAM SHOW POSITIVE ACHIEVEMENT RESULTS?

No. As previously mentioned, desegregation provided a rare opportunity for the achievement gains of Title I students to be compared with those made by similar students attending schools without a Title I Program. In other words, the opportunity existed to ask the question, "Do Title I students make achievement gains greater than they would if the program did not exist?" The answer appears to be "probably not."

The evaluation results provided no evidence of a consistent, positive impact of the Title I Program on student achievement. In fact, at some grades former Title I students currently attending schools without a Title I program outscored similar Title I students.

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RAINBOW KITS

WHAT ARE RAINBOW KITS?

Title I piloted an instructional support program activity called Rainbow Kits this year. The kits are collections of 36 reading-related activities for parents and children. They were developed on four levels -- kindergarten, first grade, primary (grades 2 and 3) and intermediate (grades 4-6). They are packaged in envelopes and designed to be sent home with the Title I children on a weekly basis throughout the school year. The families received a plastic file box to keep the activities in at home.

The Rainbow Kits were piloted at six schools with only about half of the total number of Title I students getting the kits. Such an arrangement provided participation and comparison groups for the evaluation.

Four questionnaires were sent home to the parents of the participants to learn if the kits were being received and used and to find out what the parents thought about using them. The parents who responded were very enthusiastic about using the kits. Almost 90% reported enjoying the work with their children either "Much" or "Very Much." This positive parental response is very similar to that received by the At-Home Program which Title I has used during the summer for several years.

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> **It is apparent that large numbers of parents greatly appreciate having specific, planned instructional activities that they can do with their children at home.**

The questionnaires revealed other interesting findings as well:

- About 90% of the parents would like their children to receive more than one activity a week. Reading, math, and language arts were the most favored subject areas.
- Title I students have homework about half of the time. It usually takes them half an hour or less to finish it.
- About a third of the parents reported other children also used the Rainbow Kit activities. They ranged in age from 2 to 15 and had an average age of about eight.
- The mothers worked with the children about 70% of the time. About 10% of the children worked with a brother or sister.
- The children watched about two and one half to three hours of television a day. The first graders seemed to watch less television than the others.

DID THE RAINBOW KITS IMPROVE STUDENT ACHIEVEMENT?

No, at least not yet. At no grade was there a difference in the gains made by the participants and the control groups. If involving parents in instructional activities has a general effect of increasing the parents' involvement in other, more significant educational activities, then perhaps programs like the Rainbow Kits may have a long-term payoff in achievement gains. At the least, it is a program that involves parents and their children in enjoyable instructional tasks.

TITLE I EARLY CHILDHOOD EDUCATION PROGRAM

WHAT IS THE TITLE I EARLY CHILDHOOD PROGRAM?

The Title I Program has a number of full-day early childhood classes for four-year-olds. During this, the third year of the program, Title I pre-k classes were located at Brown (2 classes), Maplewood, Norman, Ortega, Rosewood, and Sims. In addition, a class at Ridgetop, and a class at Rosewood were funded 50% by Title I and 50% by Title I Migrant.

DID THE TITLE I PREKINDERGARTEN PROGRAM CONTINUE TO SHOW THE LARGE ACHIEVEMENT GAINS OF PREVIOUS YEARS?

The Title I pre-k students continued to make gains that are greater than those of the average four-year-old; they also continued to outgain the Title I Migrant prekindergarten students and the Happy Talk Program participants, as illustrated in Figure 5. However, this year's gain was smaller than the 16 point gain obtained last year.

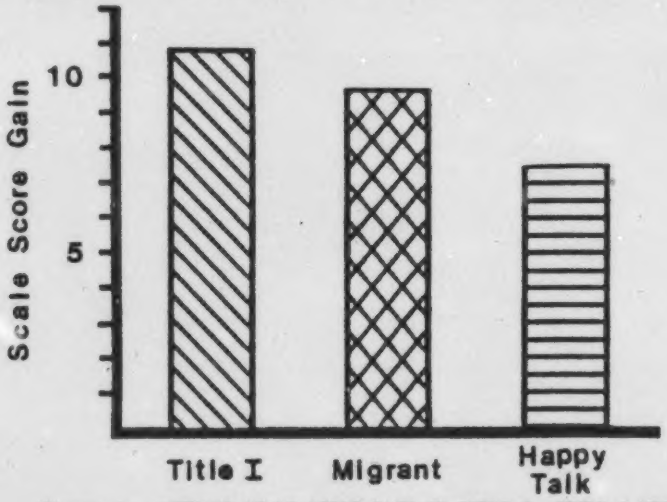

Figure 5. AVERAGE SCALE SCORE GAIN BY TITLE I, TITLE I MIGRANT, AND HAPPY TALK FOUR-YEAR-OLDS.

DID CLASSROOM OBSERVATION SUGGEST ANY REASON WHY THIS YEAR'S GAIN WAS LESS?

The Title I Migrant Evaluation did a few observations in each Title I pre-k class in order to have a comparison group for their observations. The results suggest that a change in the use of instructional time occurred this year. A decrease in formal, adult-led instructional time and an increase in informal instruction may have been related to the drop in achievement gain.

DO FORMER PRE-K STUDENTS CONTINUE TO MAKE GOOD GAINS IN KINDERGARTEN?

Both last year's and this year's evaluations have shown that the former pre-k students entered kindergarten scoring above their classmates. They did not lose their prekindergarten gains during the summer. However, by the time they entered first grade, the students are no longer outscoring their kindergarten classmates.

It seems likely that kindergarten teachers do not respond to the initial advantage of the former pre-k students in ways that maintain their relatively high achievement level throughout the year.

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THE HAPPY TALK PROGRAM

HOW DID THE HAPPY TALK PROGRAM DO THIS YEAR?

The Happy Talk Program is a home-based instructional program for mothers and children. Each week a community representative visits the participating home with a lesson to demonstrate for the mother. The mother is to watch the lesson and repeat it with the child during the week.

The 1979-80 Happy Talk participants made a significantly greater gain in achievement than a control group of nonparticipants. This year's students did not. Evaluation results suggested that the Happy Talk Program may have been more successful with the high-achieving children in the program than with the lower-scoring ones. As in last year's evaluation, the Happy Talk participants did not make gains as large as those of the Title I pre-k students.

THE SUMMER AT-HOME READING PROGRAM

WHAT WERE THE RESULTS OF THE EVALUATION OF THE 1980 SUMMER AT-HOME PROGRAM?

Title I offered a home-based summer instructional program to about 300 Title I students during the summer of 1980. The results of the evaluation of that program which can be found in Interim Evaluation Report: 1980 Summer At-Home Reading Program, publication number 80.61, were consistent with those of other evaluations of summer programs both in and out of the District.

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The summer students did not make larger achievement gains than their matched controls.

The program was like the Rainbow Kits in that it was very popular with the parents and children, but it did not have any measurable impact on achievement. There was some evidence to suggest that the match between student achievement level and kit difficulty level needed improvement.

PARENTAL INVOLVEMENT

Apart from evaluation, the only other activities funded by Title I were those of the Parental Involvement Component, which had two main thrusts:

a. to see that campus and districtwide parent advisory councils (PAC's) were established and meeting regularly, and

b. to provide training to the parents of Title I students about topics of interest to them.

Each Title I school had a community representative or a campus contact person to arrange PAC activities at the school. The principal also designated either the Title I/Migrant Parental Involvement Specialist, a campus staff member, or the school's Title I Reading Coordinator as the person responsible for seeing that PAC activities were scheduled and carried out at the campus in accordance with the law. The Parental Involvement Specialist was responsible for PAC activities at the districtwide level.

Altogether nine Districtwide PAC meetings and two Districtwide PAC Workshops were held. Public schools held 71 local campus PAC meetings, and nonpublic Title I schools held four. The total attendance at districtwide and local meetings was 1158 and 347 respectively.

Figure 6 shows that two objectives were met and three were not.

Other findings showed:

a. that those schools for which the Title I Parental Involvement Specialist was responsible had slightly more frequent meetings than the others,

b. that when a local campus person was responsible for PAC activities, attendance was highest, and

c. that elected PAC members attended about 50% of the meetings on their campus.

Met	Not Met	Objectives
☒	☐	At least two parent training sessions for Districtwide PAC members will be held during the 1980-81 school year.
☐	☒	At least one parent from each Title I school will be trained.
☒	☐	A minimum of three staff development sessions or meetings will be held by the Title I/Title I Migrant Parental Involvement Specialist for community representatives and/or campus parental involvement contact persons.
☐	☒	At least two parent training sessions will be held on Title I campuses during the 1980-81 school year.
☐	☒	At least 10 parents will be trained on each campus.

Figure 6. PARENTAL INVOLVEMENT COMPONENT OBJECTIVES.

WHAT CAN WE LEARN FROM THIS YEAR'S EVALUATION?

The major conclusions from the 1980-81 Title I Evaluation which have importance for planning have been highlighted in the foregoing summary. They are listed below.

- Using Title I and local funds to lower the pupil:teacher ratio to approximately 15:1 apparently produced an effective compensatory education program. Low-achieving students in the program made a full year's growth, two grade equivalent months more than similar students in other schools.
- Across grades low-achieving students benefited more from the lower pupil:teacher ratio than higher achieving students.
- Observations suggest that the lowering of the pupil:teacher ratio had a greater effect on the quality of instructional time than on the quantity of instructional time.
- The schoolwide project teachers believe that the project's effectiveness would cease if the pupil:teacher ratio exceeded 18:1.
- There is no evidence of a consistent, positive impact of the regular Title I Program on student achievement. In fact, at some grades former Title I students currently attending schools without a Title I Program outscored similar Title I students.
- By the beginning of the first grade, former Title I prekindergarten students are no longer scoring higher than their classmates.
- Large numbers of parents greatly appreciated having specific, planned instructional activities that they can do with their children at home.
- Summer At-Home Program participants did not make larger achievement gains than their matched controls.

TITLE I MIGRANT

APPENDIX A

PEABODY PICTURE VOCABULARY TEST (PPVT)

Brief description of the instrument:

The Peabody Picture Vocabulary Test (PPVT) is a standardized vocabulary test which provides an estimate of the subject's verbal ability. It is individually administered, untimed, and the items the subjects take depend on their age and their responses.

To whom was the instrument administered?

The Migrant and Title I pre-kindergarten students, and Title I Happy Talk Program participants.

How many times was the instrument administered?

Twice to each student. Students were randomly assigned Form A or Form B for the pretest, and then the alternate form was given to them for the posttest.

When was the instrument administered?

The pretests were administered between October 15, 1980 and November 4, 1980 and the posttests were administered between April 21, 1981 and May 7, 1981.

Where was the instrument administered?

Each child was tested individually by a tester in the hall, empty room, empty office, or whatever place the school had made available for the testing.

Who administered the instrument?

The Title I Migrant Evaluator, a Title I evaluation assistant, or one of five ex-teachers hired specifically for PPVT testing.

What training did the administrators have?

Each tester was provided instruction in giving the PPVT and practice in its administration with several non-AISD children.

Was the instrument administered under standardized conditions?

Yes.

Were there problems with the instrument or the administration that might affect the validity of the data?

None were identified.

Who developed the instrument?

Lloyd M. Dunn, Ph.D.

What reliability and validity data are available on the instrument?

The PPVT test manual provided extensive information on test development, norms, reliability, validity, etc.

Are there norm data available for interpreting the results?

Yes.

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Appendix F

PUPIL ACTIVITIES RECORD-REVISED

Instrument Description: Pupil Activities Record--Revised (PAR-R)

Brief description of the instrument:

The Pupil Activities Record--Revised (PAR-R) is a systematic observation instrument designed to answer--"What is the amount and kind of instruction provided to students during an instructional day?" One student is observed for an entire school day to provide an inferential measure of the instruction delivered to all students. The PAR-R was designed originally to observe the activities in Title I, Title I Migrant, Title VII, and Local/State Bilingual classrooms. The variables observed include place of instruction, area of instruction, adult contact, group size, on-task/off-task, language of instruction, mode of instruction, content of instruction, competitiveness, ethnicity, and whether a substitute teacher was present in the classroom.

To whom was the instrument administered?

A total of 352 2nd and 5th grade students in Title I and selected non-Title I elementary schools were observed for an entire school day.

How many times was the instrument administered?

One observation day per student, except at Allison and Becker, where some students were observed more than once.

When was the instrument administered?

October 1980 through May 1981.

Where was the instrument administered?

In classrooms, resource rooms, libraries, and any other area in the school where students receive instruction.

Who administered the instrument?

Title I, District Priorities, and Systemwide Desegregation evaluation assistants.

What training did the administrators have?

General training in observation processes and a practicum in observing with the PAR-R.

Was the instrument administered under standardized conditions?

Classroom situations varied.

Were there problems with the instrument or the administration that might affect the validity of the data?

The advance notification of scheduled observations may have caused teacher preparation for the observation. Also, some teachers identified the students under observation and may have altered their behavior toward the students.

Who developed the instrument?

Office of Research and Evaluation, Austin Independent School District.

What reliability and validity data are available on the instrument?

Inter-rater reliability was assessed using intraclass correlation coefficients for each of the coded categories. The majority of coefficients range between approximately 0.85 and 0.99. Content validation is implied through justification of using single subject, day-long technique rather than total classroom limited-duration observation.

Are there norm data available for interpreting the results?

No.

BEST COPY AVAILABLE

PEABODY PICTURE VOCABULARY TEST

Purpose

The Peabody Picture Vocabulary Test (PPVT) was administered to migrant and Title I pre-K students and Happy Talk Participants in order to gather information relevant to the following decision and evaluation questions:

Migrant

Decision Question D1: Should the pre-K Instructional Component be continued as it is, modified, or deleted?

Evaluation Question D1-1: Were the achievement objectives met?

Evaluation Question D1-2: How do the pre/posttest gains made by the migrant pre-K students on the PPVT compare with the pre/posttest gains made by the Title I pre-K students?

Information Need I17: How many migrant students were pre- and posttested by grade level?

Title I

Decision Question D4: Should the Title I Early Childhood Education Program be continued as it is, discontinued, or modified? If so how?

Evaluation Question D4-1: Was the objective of the Early Childhood Education Program met?

Happy Talk

Decision Question D5: Should the Happy Talk Program be continued as it is, discontinued, or modified? If so how?

Evaluation Question D5-1: Were the objectives of the Happy Talk Program met?

Evaluation Question D5-2: How did the achievement gains made by the Happy Talk participants compare with those made by Early Childhood Education Program participants?

Procedure

The Peabody Picture Vocabulary Test (PPVT) was administered as a pretest (October 15, 1980-November 7, 1980) and a posttest (April 21, 1981-May 7, 1981) for all Title I and migrant pre-kindergarten students and all Happy Talk participants. All tests were administered in English.

Since the PPVT is an individually-administered test, several ex-teachers were hired to assist with the pre- and posttesting. They were given training in both administration (and scoring) of the PPVT. Practice training sessions were conducted before both the pre- and posttesting. With the cooperation of both the University Day Care Center and Brentwood Day Care Center, the testers got actual practice giving the PPVT to young children. The testing was conducted by the Migrant Evaluator, the Title I Evaluation Assistant, and one of five ex-teachers hired and trained to administer the Peabody.

The PPVT has two forms - A and B. Both forms were used in the testing. Half the children in each class (and in the Happy Talk program) were randomly assigned Form A and half were randomly assigned Form B for the pretesting. The opposite form was given to the child for the posttest. Therefore each child with both a pre- and posttest, has a Form A score and Form B score.

A memo (Attachment A-1) was sent in September to the Title I and Migrant pre-K teachers to advise them of the PPVT pretesting. Early in October the Migrant Evaluator and the Title I Evaluation Assistant scheduled the pre-K teachers for testing (see Attachment A-2). The Title I Evaluator contacted the Happy Talk Coordinator who scheduled the testing of the Happy Talk students. The pre-K students were tested in their schools and the Happy Talk participants were tested in their homes. Although all testing was conducted in English, a Spanish-speaking tester tested the Happy Talk participants to facilitate communication with their parents. Make-up testing was conducted the week after the regular testing with the teachers' and the Happy Coordinator's cooperation.

In mid December the pre-K teachers were sent their students' pretest results (see Attachment A-3) in the form of percentile bands. These bands were calculated based on the pretest scores of the migrant ,Title I, and Happy Talk participants combined. Attachment A-4 is a sample of a class report sent. The Happy Talk Coordinator also received this information for Happy Talk participants.

On April 1 Title I and Migrant pre-kindergarten teachers were sent a memo (see Attachment A-5 for the memo sent to Migrant teachers) to advise them of the posttesting dates. The teachers called and arranged posttesting times. The Happy Talk Coordinator scheduled the Happy Talk testing. As with the pretesting, makeup testing was conducted the week after the regular testing with the teachers' and the Happy Talk Coordinator's cooperation.

The pre-kindergarten teachers received their classes' scores and class gains the last day of school. A memo (Attachment A-6) explained the results. Each teacher was given comparison data for their program. Attachment A-7 is a sample class printout.

The PPVTs were all handscored by ORE staff or the testers. All test scoring was double or triple checked to assure accuracy of the results.

The administration procedures for the PPVT were followed very strictly. Any student for whom a basal was not obtained was considered to have a possibly invalid score and was excluded from the gain analyses. Also any other score that was considered suspect was marked possibly invalid and not used in the analyses. Teachers and the Happy Talk Coordinator were asked to indicate which students were Spanish dominant (or other-than-English dominant) before the children were tested. None of the procedures were changed, but a separate analyses was done on gains to see how the Spanish-dominant children did in comparison to the English-dominant children. See Attachment A-8. Since the Spanish-dominant students did as well (and in some cases better) on the Peabody given in English, their test results were included in the analyses. The gains analyses and the other analyses reported on in this appendix include only those children for whom there are valid pre- and posttest scores. The PPVT scale score was the score used in the analyses.

The PPVT data were keypunched and verified at Southwest Educational Development Lab (SEDL) as per the card file layout in Attachment A-9. The data are stored at AISD on files: EVØPEA81 0101 = pretest data; EVØPEA81 0102 = posttest data; EVØPEA81 0103 = pre/posttest data merged; and EVØPEA81 0104 = pretest and posttest only data (the data file used for the analyses). Control file EVØPBSRT sorts the data by school, teacher, form, and name. EVØPBSRT 0102 sorts by teacher name and scale scores. Control file EVØDISTP was used to run the frequencies of the various PPVT scores. EVØPBCNT was used to count the pre- and posttest scores and averages of students with Spanish-dominant and English-dominant language codes. EVØREGRN0101 was the control file used to run all the linear model analyses. The control data for the Happy Talk analysis are on EVØCON0101.

Results

Except for the achievement of the Title I and migrant objectives, the analyses used to answer the evaluation questions were linear models (these models were analyses of covariance using the slopes and intercepts tests). A prototypic model for comparing gains and controlling for pretest scores is in Attachment A-10. Only students in all three programs that had valid pre- and posttest scores are included in the analyses. Attachment A-11 shows the frequency distribution of PPVT scale scores-pretest, posttest, and gains for migrant students. Attachment A-12 presents the frequency distribution (pre, post, and gains) of PPVT scale scores for Title I students. The frequency distribution of the PPVT scale scores (pre, post, and gains) are listed in Attachment A-13.

Migrant

Evaluation Question D1-1: Were the achievement objectives met?

The migrant objectives set three performance levels (A, B, and C) for gains on the PPVT. Students at the A level made a standard score of 100 or more on the pretest and were expected to make 0-5 points gain on the posttest. Students at the B level (pretest score of 99-86) needed 6-19 standard score points to reach the A level or National median. The C level (85 or lower) on the pretest needed 20 or more points to reach the A level. In Figure A-1 are presented the percent of migrant students scoring at each level on the pre- and posttest and the percents of students who made each level gain. As can be noted from the figure, the students did improve from pre- to post, in that the majority of students were at the C level on the pretest and the majority were at the A and B levels on the post. It is difficult to assess the achievement of these stratified objectives, but it appears that not a high enough percentage of students gained to reach the A level as was expected in the objectives.

Performance Level	Percent of Students Scoring at Each Level-Pretest	Percent of Students Scoring at Each Level-Posttest	Gains Pre- to Posttest	Percent of Students Making Gains at Each Level
Standard score of 100 or more (A)	21%	40%	0-5 standard scores points	37%
Standard score of 99-86 (B)	27%	32%	6-19 standard scores points	33%
Standard score of 85 or less (C)	52%	28%	20 or more standard score points	30%

Figure A-1. MIGRANT STUDENT PRETEST, POSTTEST, AND GAINS MADE ON THE PPVT IN TERMS OF THE MIGRANT APPLICATION OBJECTIVES.

The average gain for the migrant students was 9.63 scale score points.

Evaluation Question D1-2. How do the pre/posttest gains made by the migrant students on the PPVT compare with the pre/posttest gains made by the Title I pre-K students?

In Attachment A-14 are documented the analyses conducted to compare Title I and migrant gains on the PPVT. The two programs did show gains that were significantly different. In Figure A-2 are charted some predicted posttest scores for Title I and migrant students. Generally the differences were greatest when the pretest score was lower, with Title I students scoring considerably higher. The gap between the two groups narrows as the pretest scores increase. This is illustrated in the graph in Figure A-3.

		PRETEST SCORE				
Group	N	60	70	80	90	100
Title I	122	83.9	89.1	94.1	99.0	104.9
Migrant	94	74.5	81.6	88.7	96.2	104.4
Difference		9.4	7.5	5.4	2.8	.5

Figure A-2. PREDICTED POSTTEST SCORES AT SELECTED PRETEST VALUES FOR TITLE I AND MIGRANT PRE-K STUDENTS.

In Attachment A-15 are the analyses conducted to compare Title I, migrant, and Happy Talk gains. These analyses found the three groups to be significantly different from each other. These differences can be noted in Figure A-3. The Happy Talk and migrant lines have quite different slopes.

Miscellaneous

Analyses of covariance were also performed to compare the gains made by the 9 pre-K classes (7 Migrant and the two split-funded Title I/Migrant classes). These are documented in Attachment A-16. No significant differences were noted among the classes, indicating overall gains were generally the same over the program regardless of which class students were in.

Title I

Evaluation Question D5-1. Was the objective of the Early Childhood Education Program met?

In Figure A-4 are the stratified expected gains for the Title I pre-K students on the PPVT. The percent of students making each gain are also listed. The assessment of these stratified objectives is very difficult; however, it appears that fewer students made as high gains as were expected and more made lower gains than were expected.

Standard Score Gain	Expected Gains	Actual Gains
21 or more points	42%	25%
11-20 points	20%	22%
6-10 points	14%	14%
1-5 points	16%	7%
0 points or less	8%	32%

Figure A-4. EXPECTED AND ACTUAL GAINS ON THE PPVT FOR MEASUREMENT OF THE TITLE I OBJECTIVES.

The average gain made by the 122 Title I students pre- and posttested was 10.84 scale score points.

Miscellaneous

As was done with Migrant classes, analyses were conducted to compare gains made by the 9 pre-K classes (7 Title I and the two split-funded Title I/ Migrant classes). These analyses are documented in Attachment A-17. Unlike the Migrant classes, significant differences in gains were found among the Title I classes indicating the class did have an impact on the student gains made.

Happy Talk

Evaluation Question D5-1. Were the objectives of the Happy Talk Program met?

1. Happy Talk participants will demonstrate a significantly higher vocabulary achievement level than a control group of nonparticipants, as measured by pre- and post administrations of the PPVT ($p \leq .05$ level of significance).

2. A majority of Happy Talk participants will gain 10 standard score points from pre- to posttesting with the PPVT.

The Happy Talk Program is a home-based instructional program for mothers and children. Each week a community representative visits the participating home with a lesson to demonstrate for the mother. The community representative usually takes a toy or a book to use in doing the lesson. The mother is to watch the lesson and repeat it with the child during the week. The next week the community representative brings another toy or book and another lesson to demonstrate for the mother.

Objective 1. To save time and cost of recruiting a comparison group of nonparticipants, the decision was made to use the previous year's control group for comparison. The traditional slopes and intercepts tests of analysis of covariance (documented in Attachment A-18) revealed no differences between the two groups, i.e., on the average the Happy Talk participants did not show a larger gain than the control group. However the analyses did reveal that the regression slopes for the two groups were curvilinear and unequal. Therefore, while on the average, the groups may not have differed significantly, the predicted posttest score for one group might have been significantly higher than the predicted value of the other group at certain ranges of the pretest. Figure A-4 illustrates that the differences between the groups were greatest at higher pretest scores. It appears that the program was more successful with higher achieving rather than lower achieving students.

		PRETEST SCORE						
Group	N	65	70	75	80	85	90	95
Happy Talk	45	78.4	79.5	81.2	83.3	85.9	89.0	92.6
Control	26	77.9	79.7	81.0	81.9	82.2	82.2	81.7
Difference		.5	-.2	.2	1.4	3.7	6.8	10.9

Figure A-5. PREDICTED POSTTEST SCORES AT SELECTED PRETEST VALUES FOR HAPPY TALK PARTICIPANTS AND CONTROLS.

Objective 2. This objective was not met. On the average, participants gained only about 6.7 scale score points. Forty-two percent made gains of 10 points or higher.

Evaluation Question D5-2. How did the achievement gains made by Happy Talk participants compare with those made by Early Childhood Education Program participants?

The analyses reported in Attachment A-19 revealed that, as a group, Title I pre-K students had higher posttest scores than did Happy Talk children with the same pretest scores. The analyses also indicated that the differences between groups were not the same across all levels of the pretest. In Figure A-6, it can be noted that the difference between the groups is greater at low pretest scores than at higher pretest scores. These differences are also illustrated in Figure A-3. That is, Happy Talk students were closer to the Title I students on the posttest when they had a high pretest score. This finding provides further evidence that the Happy Talk Program was more effective with higher achieving children than with lower achieving ones.

		PRETEST SCORE						
Group	N	65	70	75	80	85	90	95
Title I Pre-K	122	89.2	90.7	92.4	94.2	96.2	98.3	100.6
Happy Talk	45	78.9	81.0	83.3	85.7	88.3	91.0	93.9
Difference		10.3	9.7	9.1	8.5	7.9	7.3	6.7

Figure A-6. PREDICTED POSTTEST SCORES AT SELECTED PRETEST VALUES FOR TITLE I PRE-K AND HAPPY TALK PARTICIPANTS.

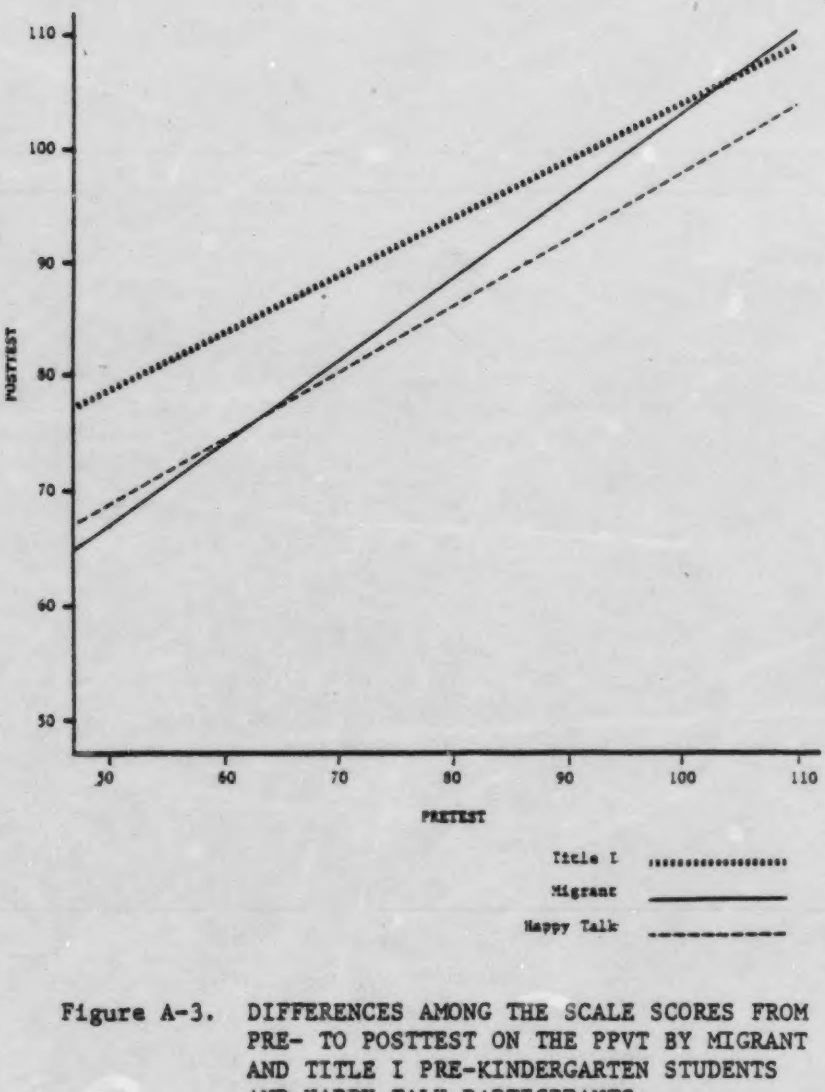


Figure A-3. DIFFERENCES AMONG THE SCALE SCORES FROM PRE- TO POSTTEST ON THE PPVT BY MIGRANT AND TITLE I PRE-KINDERGARTEN STUDENTS AND HAPPY TALK PARTICIPANTS.

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

September 30, 1980

TO: Title I and Title I Migrant Pre-K Teachers

FROM: DD David Doss, Title I Evaluator
CC Catherine Christner, Title I Migrant Evaluator

SUBJECT: Pre-K Achievement Pretest

We will be contacting each of you in the near future to set up a specific date and time between October 15 and October 31 to administer the Peabody Picture Vocabulary Test (PPVT). The PPVT is being used this year as the achievement test to measure pre-K achievement gains.

The PPVT is an individually administered test. You will not be required to administer this test as we will have trained testers to do this. There will be no practice test needed. We plan to try to test all the students in one class during a morning period. The actual administration time for each child should be only 15 to 20 minutes.

Thank you for your cooperation.

Approved: Freda Holley
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

CC:rrf

cc: Lee Laws
Oscar Cantú
José Mata
Timy Baranoff
Principals with Pre-K Teachers

Attachment A-2

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

October 14, 1980

TO: Migrant Pre-K Teachers

Catherine Christner

FROM: Catherine Christner, Migrant Evaluator

SUBJECT: Confirmation of Peabody Picture Vocabulary Test

This is to remind you that your class is scheduled to take the Peabody Picture Vocabulary Test on ________________________.

The testers will be two of the following: Nancy Manning, Eva Costilla, or Catherine Christner. The testers will arrive during the breakfast period to set up and begin testing whenever breakfast is finished. Each child will be tested individually and should be out of class for only 15 to 20 minutes. The testing should be completed before the lunch period begins.

We really appreciate your cooperation.

CC:rrf

Approved: Freda M Holley
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

cc: Lee Laws - Oscar Cantú - José Mata
Principals of Schools with Migrant Pre-K Teachers

Allison - October 30, 1980
Brooke - October 29, 1980
Dawson - October 22, 1980
Metz - October 23, 1980
Ortega - October 21, 1980
Ridgetop - October 28, 1980
Sanchez - October 15, 1980
St. Elmo - October 16, 1980

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

December 17, 1980

TO: Title I and Title I Migrant Pre-K Teachers

FROM: David Doss and Catherine Christner

SUBJECT: Peabody Pretest Score Results

Enclosed are the results for your class from the Peabody Picture Vocabulary Testing done earlier this fall. In order to make these scores more meaningful to you, we have translated the results into percentile bands. Any test score is only an estimate of a student's achievement level. The percentile bands describe a range of scores within which the student's "true" score is likely to fall. These percentile bands are provided for your information, and not suggested for use in instructional placement.

Please feel free to call us if you have any questions. The posttesting will be in April. You will be sent more information about this at a later date.

Approved: ______________________
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

CC:rrf
Enclosures

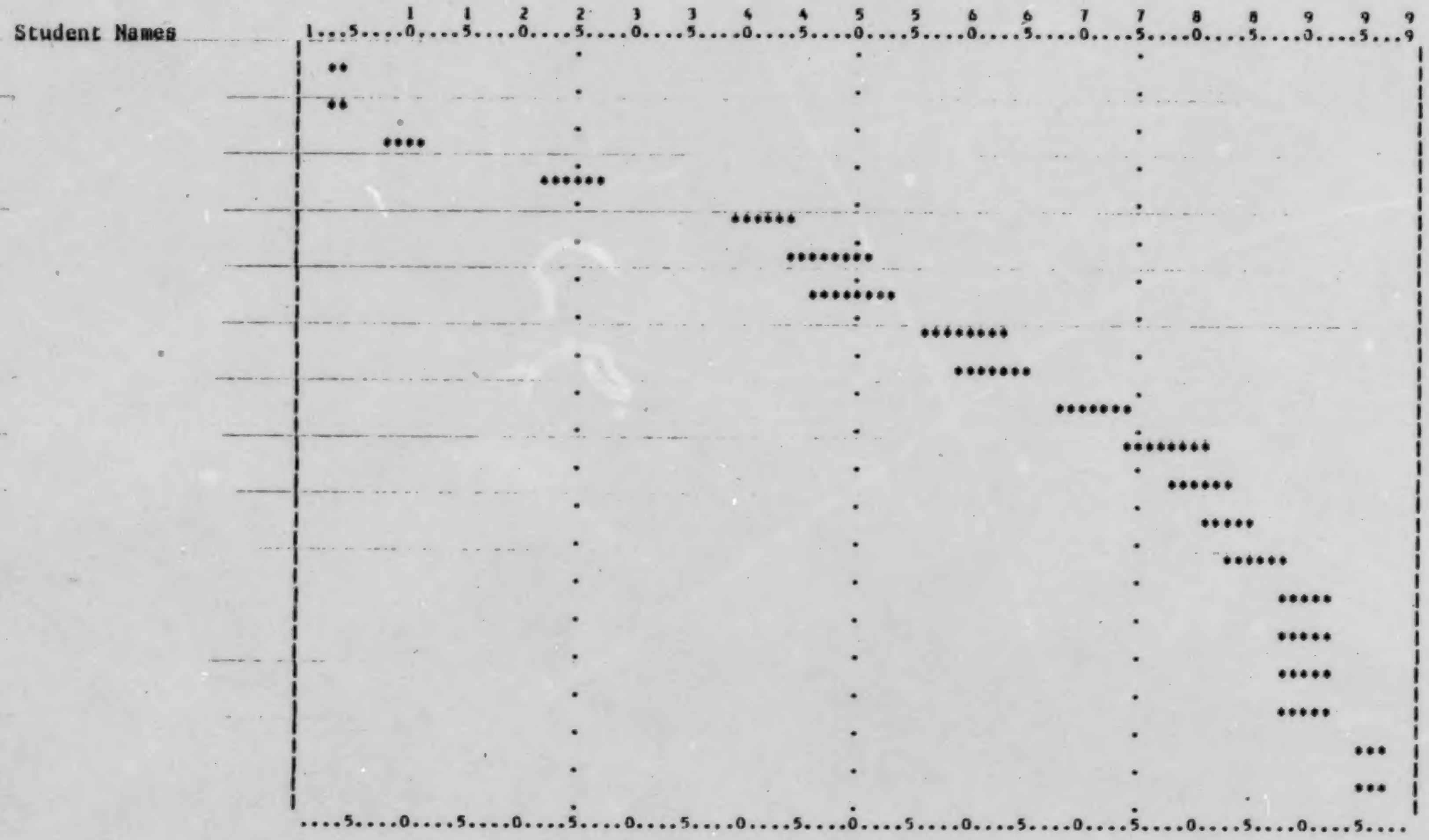
cc: Lee Laws
Oscar Cantú
José Mata
Principals of Schools with Pre-K Teachers

AUSTIN INDEPENDENT SCHOOL DISTRICT
OFFICE OF RESEARCH AND EVALUATION

PERCENTILE BANDS OF PEABODY RAW SCORES MIGRANT 12/19/80

80.71

TEACHER ( )



Attachment A-4

A-15

80.71 Attachment A-5

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

April 1, 1981

TO: Title I Migrant Pre-K Teachers

FROM: Catherine Christner CC

SUBJECT: Peabody Picture Vocabulary Test Posttest

The posttesting of the prekindergarten students with the Peabody will be April 21 through April 24 and April 28 through May 1. As in the fall, trained testers will administer the test to each student individually. We will try to test all the students in one class during a morning period. The actual time per child will be only 15 to 20 minutes.

Please call me to arrange a convenient time for us to come out and conduct the testing. We can schedule only one school per morning.

Thank you for your cooperation.

Approved: Freda Holley
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

CC:rrf

cc: Lee Laws
Oscar Cantú
José Mata
Timy Baranoff
Principals with Migrant Pre-K Teachers

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

May 27, 1981

TO: Title I and Migrant Pre-K Teachers

FROM: Catherine Christner and David Doss

SUBJECT: Peabody Posttest Scores

Enclosed are the results from the posttesting of your students. For each student posttested, you will find a posttest scale score. If the student was also pretested, he/she will have a pretest score listed and the gain made from pre- to posttest. Students for whom you had indicated a dominant language other than English, will have an asterisk by their name. If we felt a student's score might not be valid, "possibly invalid" is listed for that child.

For each class and each program we have computed an average pretest score, an average posttest score, and an average gain. These data for your class and your program are included for your information.

CC:lg
Enclosures

APPROVED: Freda M Holley
Director, Office of Research and Evaluation

APPROVED: Roberta Hartung
Director, Elementary Education

cc: Timy Baranoff
Lee Laws
Oscar Cantú
José Mata

80.71

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PEABODY SCALE SCORE RESULTS      -    TITLE 1 AND MIGRANT  - Teacher         06/04/81
                                                             Name
Student                           SCALE SCORES            POSSIBLY
NAME                           PRE    POST  GAIN   LANG   INVALID

                                       99
                                78    110    32
                                79     92    13
                                96     91     5
                                80     77     3
                                91    114    23
                                82    100    18
                                36     93    57
                                       67
                                98    116    18
                                86     94     8
                               116    112     4
                                75     85    10
                                84    111    27
                                83    112    29
                               101    114    13
                                94    104    10
                                75    100    25
                                90    117    27


CLASS TOTALS                  1444  1508   322
STUDENTS PRETESTED   17     STUDENTS POSTTESTED   19     STUDENTS WITH VALID GAIN   17
CLASS AVERAGES                84.94 100.42  18.94


TITLE I PROGRAM TOTALS       10856 13379  1348
STUDENTS PRETESTED  126     STUDENTS POSTTESTED  138     STUDENTS WITH VALID GAIN  122
TITLE I PROGRAM AVERAGES      86.16  96.95  11.05


MIGRANT PROGRAM TOTALS        8628 10691   914
STUDENTS PRETESTED  110     STUDENTS POSTTESTED  125     STUDENTS WITH VALID GAIN   94
MIGRANT PROGRAM AVERAGES      78.44  85.53   9.72
```

Attachment A-7

Attachment A-8

COMPARISONS OF PEABODY SCALE SCORE GAINS BY SPANISH AND ENGLISH LANGUAGE DOMINANCE OF PRE-K STUDENTS

	Title I	Mean	N
Gain	Spanish Dominant	11.33	3
	English Dominant	10.77	123
Gain	Spanish Dominant	10.50	18
	English Dominant	9.27	91

Page 1 of 2

80.71

FILE ID A /P / N

CARD FILE LAYOUT

LOCATION:

PROGRAM: Title I Migrant

___AISD___

YEAR: 1980-81

___UT PF___, ___, ___
acct. pass. file name

CONTENTS: Title I Pre-K, Migrant Pre-K, and Happy Talk Peabody Testing Program

Field	Columns	Description
A	1-3	File ID=APN
	5-25	Name (last name first)
	26-26	Sex (1=female; 2=male)
	27-29	School
	30-31	Teacher (see attached list)
	32-32	Tester (1=BB; 2=MM; 3=CC; 4=NL; 5=EC; 6=NM, 7=FO; 8=CB)
	33-34	Age (in months)
	35-35	Form (1=A; 2=B)
	36-36	Program (1=Title I Pre-K; 2=Migrant Pre-K; 3=Happy Talk)
	37-37	Language dominant (1=English; 2=Spanish; 3 = Other)
	38-38	Basal (1=yes; 2=no)
	39-39	Time of year (1=pretest; 2=posttest)
	40-41	Raw score
	42-44	Scale score

Page 2 of 2

80.71

FILE ID A /P / N

CARD FILE LAYOUT

LOCATION:

PROGRAM: Title I Migrant

___AISD________________

YEAR: 1980-81

___UT PF_____, _____, ________________
acct. pass. file name

CONTENTS: Title I Pre-K, Migrant Pre-K, and Happy Talk Peabody Testing Program

Field	Columns	Description
	45-46	Percentile score
	47-47	Possibly invalid (1=yes)
	48-48	Race/ethnicity (1 = American Indian, 2 = Black, 3 = Asian, 4 = Hispanic, 5 = Anglo)

Attachment A-9
(continued, page 2 of 3)

PRE-K SCHOOL LIST

01 = Brown 1 (Ferguson)
02 = Brown 2 (Martin)
03 = Maplewood
04 = Norman TITLE I
05 = Ortega
06 = Rosewood
07 = Sims

08 = Ridgetop
50% TITLE I/50% MIGRANT
09 = Rosewood

10 = Allison
11 = Brooke
12 = Dawson
13 = Metz MIGRANT
14 = Ortega
15 = St. Elmo
16 = Sanchez
17 = Happy Talk

PROTOTYPIC MODELS FOR COMPARING GROUP GAINS

Model 1: $Y = a_0U + a_1X^{(3)} + a_3X^{(4)} + a_4X^{(6)} + a_5X^{(7)} + a_6X^{(8)} + E$

Model 2: $Y = a_7U + a_8X^{(3)} + a_9X^{(4)} + a_{10}X^{(5)} + a_{11}X^{(8)} + E$

Model 3: $Y = a_{12}U + a_{13}X^{(3)} + a_{14}X^{(4)} + a_{15}X^{(8)} + E$

Model 4: $Y = a_{16}U + a_{17}X^{(2)} + a_{18}X^{(8)} + E$

Model 5: $Y = a_{19}U + a_{20}X^{(2)} + E$

Where,

Y = posttest

U = unit vector

$X^{(2)}$ = pretest

$X^{(3)}$ = pretest if a member of Group 1; 0, otherwise

$X^{(4)}$ = pretest if a member of Group 2; 0 otherwise

$X^{(5)} = X^{(2)}$ squared

$X^{(6)} = X^{(3)}$ squared

$X^{(7)} = X^{(4)}$ squared

$X^{(8)}$ = 1 if a member of Group 1; 0, otherwise

E = ERROR

```
DISTAT - ANALYSIS #8  -  PEABODY TESTING PROGRAM  --  MIGRANT

FREQUENCY DISTRIBUTION FOR VARIABLE # 1 (PRETEST SCALE        1

                          RELATIVE   ADJUSTED  CUMULATIVE
              ABSOLUTE      FREQ       FREQ       FREQ
   CODE         FREQ      (PCT.)     (PCT.)     (PCT.)

    38.          1.         1.1        1.1         1.1
    43.          1.         1.1        1.1         2.1
    47.          1.         1.1        1.1         3.2
    49.          1.         1.1        1.1         4.3
    53.          2.         2.1        2.1         6.4
    54.          1.         1.1        1.1         7.4
    55.          1.         1.1        1.1         8.5
    56.          1.         1.1        1.1         9.6
    57.          1.         1.1        1.1        10.6
    58.          1.         1.1        1.1        11.7
    59.          2.         2.1        2.1        13.8
    60.          1.         1.1        1.1        14.9
    61.          1.         1.1        1.1        16.0
    62.          1.         1.1        1.1        17.0
    64.          2.         2.1        2.1        19.1
    65.          2.         2.1        2.1        21.3
    66.          2.         2.1        2.1        23.4
    68.          2.         2.1        2.1        25.5
    69.          3.         3.2        3.2        28.7
    72.          1.         1.1        1.1        29.8
    73.          2.         2.1        2.1        31.9
    75.          1.         1.1        1.1        33.0
    76.          1.         1.1        1.1        34.0
    78.          1.         1.1        1.1        35.1
    79.          1.         1.1        1.1        36.2
    80.          2.         2.1        2.1        38.3
    81.          1.         1.1        1.1        39.4
    82.          3.         3.2        3.2        42.6
    84.          3.         3.2        3.2        45.7
    85.          1.         1.1        1.1        46.8
```

```
     86.       1.       1.1       1.1      47.9
     87.       1.       1.1       1.1      48.9
     88.       1.       1.1       1.1      50.0
     89.       2.       2.1       2.1      52.1
     90.       3.       3.2       3.2      55.3
     91.       1.       1.1       1.1      56.4
     92.       3.       3.2       3.2      59.6
     93.       4.       4.3       4.3      63.8
     94.       4.       4.3       4.3      68.1
     95.       1.       1.1       1.1      69.1
     96.       2.       2.1       2.1      71.3
     97.       2.       2.1       2.1      73.4
     99.       1.       1.1       1.1      74.5
    100.       4.       4.3       4.3      78.7
    101.       2.       2.1       2.1      80.9
    102.       1.       1.1       1.1      81.9
    103.       1.       1.1       1.1      83.0
    104.       1.       1.1       1.1      84.0
    105.       3.       3.2       3.2      87.2
    106.       1.       1.1       1.1      88.3
    108.       1.       1.1       1.1      89.4
    109.       1.       1.1       1.1      90.4
    111.       3.       3.2       3.2      93.6
    112.       2.       2.1       2.1      95.7
    114.       2.       2.1       2.1      97.9
    116.       1.       1.1       1.1      98.9
    127.       1.       1.1       1.1     100.0

   TOTAL      94.     100.0     100.0

VALID CASES=   94
MISSING CASES=    0

MEAN=   84.3404          VARIANCE=  379.7968
STD. DEV=   19.4884      STD. ERR=    2.0101
MAXIMUM=  127.0000       MINIMUM=   38.0000
RANGE=   90.0000
```

```
DISTAT - ANALYSIS #8  -  PEABODY TESTING PROGRAM  --  MIGRANT

FREQUENCY DISTRIBUTION FOR VARIABLE # 2 (POSTTEST SCALE        )

                         RELATIVE  ADJUSTED  CUMULATIVE
              ABSOLUTE     FREQ      FREQ       FREQ
     CODE       FREQ      (PCT.)    (PCT.)     (PCT.)

      22.        1.        1.1       1.1        1.1

      40.        1.        1.1       1.1        2.1

      47.        1.        1.1       1.1        3.2

      56.        1.        1.1       1.1        4.3

      57.        2.        2.1       2.1        6.4

      65.        1.        1.1       1.1        7.4

      68.        1.        1.1       1.1        8.5

      69.        2.        2.1       2.1       10.6

      70.        1.        1.1       1.1       11.7

      72.        1.        1.1       1.1       12.8

      75.        1.        1.1       1.1       13.8

      76.        1.        1.1       1.1       14.9

      78.        3.        3.2       3.2       18.1

      79.        1.        1.1       1.1       19.1

      81.        1.        1.1       1.1       20.2

      82.        2.        2.1       2.1       22.3

      83.        2.        2.1       2.1       24.5

      85.        1.        1.1       1.1       25.5

      86.        1.        1.1       1.1       26.6

      87.        2.        2.1       2.1       28.7

      89.        4.        4.3       4.3       33.0

      90.        6.        6.4       6.4       39.4

      91.        4.        4.3       4.3       43.6

      93.        4.        4.3       4.3       47.9

      95.        2.        2.1       2.1       50.0

      96.        2.        2.1       2.1       52.1

      97.        1.        1.1       1.1       53.2

      98.        4.        4.3       4.3       57.4

      99.        1.        1.1       1.1       58.5

     100.        1.        1.1       1.1       59.6
```

```
      101.         1.         1.1         1.1        60.6

      102.         1.         1.1         1.1        61.7

      104.         2.         2.1         2.1        63.8

      105.         2.         2.1         2.1        66.0

      106.         3.         3.2         3.2        69.1

      107.         1.         1.1         1.1        70.2

      108.         3.         3.2         3.2        73.4

      109.         2.         2.1         2.1        75.5

      110.         5.         5.3         5.3        80.9

      111.         2.         2.1         2.1        83.0

      112.         4.         4.3         4.3        87.2

      114.         3.         3.2         3.2        90.4

      115.         1.         1.1         1.1        91.5

      116.         2.         2.1         2.1        93.6

      117.         2.         2.1         2.1        95.7

      118.         1.         1.1         1.1        96.8

      119.         1.         1.1         1.1        97.9

      120.         1.         1.1         1.1        98.9

      132.         1.         1.1         1.1       100.0

     TOTAL        94.       100.0       100.0

    VALID CASES=    94
    MISSING CASES=     0

    MEAN=    93.9787          VARIANCE=  361.8705
    STD. DEV=    19.0229      STD. ERR=     1.9621
    MAXIMUM=  132.0000        MINIMUM=   22.0000
    RANGE=  111.0000
```

```
DISTAT - ANALYSIS #8  -  PEABODY TESTING PROGRAM  --  MIGRANT

FREQUENCY DISTRIBUTION FOR VARIABLE # 3 (SCALE GAIN          )

                      RELATIVE  ADJUSTED  CUMULATIVE
           ABSOLUTE     FREQ      FREQ      FREQ
  CODE       FREQ      (PCT.)    (PCT.)    (PCT.)

  -44.        1.        1.1       1.1        1.1

  -40.        1.        1.1       1.1        2.1

  -26.        1.        1.1       1.1        3.2

  -23.        1.        1.1       1.1        4.3

  -20.        1.        1.1       1.1        5.3

  -12.        1.        1.1       1.1        6.4

  -11.        3.        3.2       3.2        9.6

   -7.        2.        2.1       2.1       11.7

   -6.        1.        1.1       1.1       12.8

   -5.        1.        1.1       1.1       13.8

   -4.        1.        1.1       1.1       14.9

   -3.        1.        1.1       1.1       16.0

   -2.        1.        1.1       1.1       17.0

   -1.        2.        2.1       2.1       19.1

    0.        2.        2.1       2.1       21.3

    1.        2.        2.1       2.1       23.4

    2.        5.        5.3       5.3       28.7

    3.        3.        3.2       3.2       31.9

    4.        2.        2.1       2.1       34.0

    5.        3.        3.2       3.2       37.2

    6.        5.        5.3       5.3       42.6

    8.        3.        3.2       3.2       45.7

    9.        3.        3.2       3.2       48.9

   10.        3.        3.2       3.2       52.1

   12.        7.        7.4       7.4       59.6

   13.        3.        3.2       3.2       62.8

   14.        3.        3.2       3.2       66.0

   15.        2.        2.1       2.1       69.1

   16.        3.        3.2       3.2       71.3
```

```
        17.        1.        1.1        1.1        72.3

        18.        1.        1.1        1.1        73.4

        19.        2.        2.1        2.1        75.5

        20.        1.        1.1        1.1        76.6

        21.        2.        2.1        2.1        78.7

        22.        2.        2.1        2.1        80.9

        23.        2.        2.1        2.1        83.0

        26.        3.        3.2        3.2        86.2

        27.        4.        4.3        4.3        90.4

        29.        1.        1.1        1.1        91.5

        31.        2.        2.1        2.1        93.6

        33.        2.        2.1        2.1        95.7

        38.        1.        1.1        1.1        96.8

        40.        1.        1.1        1.1        97.9

        45.        1.        1.1        1.1        98.9

        51.        1.        1.1        1.1       100.0

      TOTAL       94.      100.0      100.0

    VALID CASES=   94
    MISSING CASES=     0

    MEAN=      9.6383           VARIANCE=  254.7925
    STD. DEV=    15.9622        STD. ERR=     1.6464
    MAXIMUM=   51.0000          MINIMUM=  -44.0000
    RANGE=   96.0000
```

80.71

DISTAT - ANALYSIS #7 - PEABODY TESTING PROGBAM -- TITLE I

FREQUENCY DISTRIBUTION FOR VARIABLE # 1 (PRETEST SCALE)

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT.)	ADJUSTED FREQ (PCT.)	CUMULATIVE FREQ (PCT.)
26.	1.	0.8	0.8	0.8
36.	1.	0.8	0.8	1.6
37.	1.	0.8	0.8	2.5
43.	1.	0.8	0.8	3.3
53.	2.	1.6	1.6	4.9
54.	1.	0.8	0.8	5.7
57.	1.	0.8	0.8	6.6
61.	4.	3.3	3.3	9.8
62.	1.	0.8	0.8	10.7
65.	2.	1.6	1.6	12.3
66.	2.	1.6	1.6	13.9
68.	1.	0.8	0.8	14.8
71.	3.	2.5	2.5	17.2
72.	1.	0.8	0.8	18.0
73.	3.	2.5	2.5	20.5
74.	1.	0.8	0.8	21.3
75.	3.	2.5	2.5	23.8
76.	1.	0.8	0.8	24.6
78.	5.	4.1	4.1	28.7
79.	2.	1.6	1.6	30.3
80.	3.	2.5	2.5	32.8
81.	4.	3.3	3.3	36.1
82.	3.	2.5	2.5	38.5

80.71

Attachment A-12
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83.	1.	0.8	0.8	39.3
84.	5.	4.1	4.1	43.4
85.	2.	1.6	1.6	45.1
86.	2.	1.6	1.6	46.7
87.	2.	1.6	1.6	48.4
89.	3.	2.5	2.5	50.8
90.	4.	3.3	3.3	54.1
91.	3.	2.5	2.5	56.6
92.	5.	4.1	4.1	60.7
93.	4.	3.3	3.3	63.9
94.	5.	4.1	4.1	68.0
95.	1.	0.8	0.8	68.9
96.	2.	1.6	1.6	70.5
98.	3.	2.5	2.5	73.0
99.	1.	0.8	0.8	73.8
100.	2.	1.6	1.6	75.4
101.	8.	6.6	6.6	82.0
102.	1.	0.8	0.8	82.8
103.	2.	1.6	1.6	84.4
104.	1.	0.8	0.8	85.2
105.	2.	1.6	1.6	86.9
107.	3.	2.5	2.5	89.3
108.	2.	1.6	1.6	91.0
109.	1.	0.8	0.8	91.8
112.	1.	0.8	0.8	92.6
114.	1.	0.8	0.8	93.4
116.	2.	1.6	1.6	95.1
120.	1.	0.8	0.8	95.9
123.	1.	0.8	0.8	96.7

```
   125.        1.       0.8       0.8       97.5

   127.        1.       0.8       0.8       98.4

   139.        1.       0.8       0.8       99.2

   144.        1.       0.8       0.8      100.0

  TOTAL      122.     100.0     100.0

VALID CASES=  122
MISSING CASES=    0

MEAN=    87.2541           VARIANCE=  378.2737
STD. DEV=    19.4493       STD. ERR=    1.7609
MAXIMUM=  144.0000         MINIMUM=   26.0000
RANGE=  119.0000
```

```
DISTAT - ANALYSIS #7  -  PEABODY TESTING PROGRAM  --  TITLE I

FREQUENCY DISTRIBUTION FOR VARIABLE # 2 (POSTTEST SCALE       )

                           RELATIVE   ADJUSTED   CUMULATIVE
               ABSOLUTE      FREQ       FREQ        FREQ
    CODE         FREQ       (PCT.)     (PCT.)      (PCT.)

     53.          1.          0.8        0.8         0.8

     58.          1.          0.8        0.8         1.6

     65.          1.          0.8        0.8         2.5

     67.          1.          0.8        0.8         3.3

     68.          1.          0.8        0.8         4.1

     71.          2.          1.6        1.6         5.7

     73.          1.          0.8        0.8         6.6

     74.          1.          0.8        0.8         7.4

     75.          1.          0.8        0.8         8.2

     76.          1.          0.8        0.8         9.0

     77.          1.          0.8        0.8         9.8

     78.          2.          1.6        1.6        11.5

     79.          2.          1.6        1.6        13.1

     80.          3.          2.5        2.5        15.6

     81.          3.          2.5        2.5        18.0

     83.          1.          0.8        0.8        18.9

     84.          1.          0.8        0.8        19.7

     85.          3.          2.5        2.5        22.1

     87.          2.          1.6        1.6        23.8

     88.          2.          1.6        1.6        25.4

     90.          8.          6.6        6.6        32.0

     91.          2.          1.6        1.6        33.6
```

92.	3.	2.5	2.5	36.1
93.	4.	3.3	3.3	39.3
94.	1.	0.8	0.8	40.2
95.	4.	3.3	3.3	43.4
96.	1.	0.8	0.8	44.3
97.	1.	0.8	0.8	45.1
98.	1.	0.8	0.8	45.9
99.	3.	2.5	2.5	48.4
100.	5.	4.1	4.1	52.5
101.	5.	4.1	4.1	56.6
102.	1.	0.8	0.8	57.4
103.	3.	2.5	2.5	59.8
104.	5.	4.1	4.1	63.9
105.	1.	0.8	0.8	64.8
106.	3.	2.5	2.5	67.2
107.	4.	3.3	3.3	70.5
108.	3.	2.5	2.5	73.0
109.	3.	2.5	2.5	75.4
110.	3.	2.5	2.5	77.9
111.	4.	3.3	3.3	81.1
112.	4.	3.3	3.3	84.4
114.	2.	1.6	1.6	86.1
115.	1.	0.8	0.8	86.9
116.	3.	2.5	2.5	89.3

```
   117.        2.        1.6        1.6       91.0

   118.        1.        0.8        0.8       91.8

   120.        2.        1.6        1.6       93.4

   121.        1.        0.8        0.8       94.3

   123.        1.        0.8        0.8       95.1

   125.        4.        3.3        3.3       98.4

   127.        1.        0.8        0.8       99.2

   144.        1.        0.8        0.8      100.0

  TOTAL      122.      100.0      100.0

VALID CASES=  122
MISSING CASES=    0

MEAN=    98.0902            VARIANCE=   253.2397
STD. DEV=    15.9135        STD. ERR=     1.4407
MAXIMUM=  144.0000          MINIMUM=    53.0000
RANGE=   92.0000
```

```
DISTAT - ANALYSIS #7  -  PEABODY TESTING PROGRAM  --  TITLE I

FREQUENCY DISTRIBUTION FOR VARIABLE # 3 (SCALE GAIN          )

                        RELATIVE  ADJUSTED  CUMULATIVE
            ABSOLUTE      FREQ      FREQ       FREQ
   CODE       FREQ       (PCT.)    (PCT.)     (PCT.)

   -35.        1.         0.8       0.8        0.8

   -31.        1.         0.8       0.8        1.6

   -22.        1.         0.8       0.8        2.5

   -16.        2.         1.6       1.6        4.1

   -15.        1.         0.8       0.8        4.9

   -13.        2.         1.6       1.6        6.6

   -12.        4.         3.3       3.3        9.8

   -11.        1.         0.8       0.8       10.7

   -10.        1.         0.8       0.8       11.5

    -9.        1.         0.8       0.8       12.3

    -8.        1.         0.8       0.8       13.1

    -5.        5.         4.1       4.1       17.2

    -4.        4.         3.3       3.3       20.5

    -3.        2.         1.6       1.6       22.1

    -2.        3.         2.5       2.5       24.6

    -1.        7.         5.7       5.7       30.3

     0.        2.         1.6       1.6       32.0

     1.        3.         2.5       2.5       34.4

     2.        2.         1.6       1.6       36.1

     3.        2.         1.6       1.6       37.7

     4.        1.         0.8       0.8       38.5

     5.        4.         3.3       3.3       41.8
```

6.	3.	2.5	2.5	44.3
7.	1.	0.8	0.8	45.1
8.	2.	1.6	1.6	46.7
9.	2.	1.6	1.6	48.4
10.	3.	2.5	2.5	50.8
11.	1.	0.8	0.8	51.6
12.	2.	1.6	1.6	53.3
13.	4.	3.3	3.3	56.6
14.	5.	4.1	4.1	60.7
15.	2.	1.6	1.6	62.3
16.	3.	2.5	2.5	64.8
17.	5.	4.1	4.1	68.9
18.	4.	3.3	3.3	72.1
19.	1.	0.8	0.8	73.0
20.	1.	0.8	0.8	73.8
22.	2.	1.6	1.6	75.4
23.	2.	1.6	1.6	77.0
24.	2.	1.6	1.6	78.7
25.	5.	4.1	4.1	82.8
27.	4.	3.3	3.3	86.1
28.	1.	0.8	0.8	86.9
29.	2.	1.6	1.6	88.5

```
     32.         3.        2.5        2.5       91.0

     34.         2.        1.6        1.6       92.6

     36.         1.        0.8        0.8       93.4

     37.         1.        0.8        0.8       94.3

     46.         1.        0.8        0.8       95.1

     47.         2.        1.6        1.6       96.7

     51.         1.        0.8        0.8       97.5

     55.         1.        0.8        0.8       98.4

     57.         1.        0.8        0.8       99.2

     75.         1.        0.8        0.8      100.0

   TOTAL       122.      100.0      100.0

VALID CASES=  122
MISSING CASES=    0

MEAN=    10.8361          VARIANCE=  322.5845
STD. DEV=    17.9606      STD. ERR=     1.6261
MAXIMUM=   75.0000        MINIMUM=  -35.0000
RANGE=  111.0000
```

80.71

Attachment A-13
(Page 1 of 3)

```
DISTAT - ANALYSIS #9 - PEABODY TESTING PROGRAM -- HAPPY TALK

FREQUENCY DISTRIBUTION FOR VARIABLE # 1 (PRETEST SCALE        )

                       RELATIVE  ADJUSTED  CUMULATIVE
              ABSOLUTE   FREQ      FREQ      FREQ
     CODE       FREQ    (PCT.)    (PCT.)    (PCT.)

      34.        1.       2.2       2.2       2.2

      43.        1.       2.2       2.2       4.4

      56.        3.       6.7       6.7      11.1

      57.        1.       2.2       2.2      13.3

      61.        1.       2.2       2.2      15.6

      63.        2.       4.4       4.4      20.0

      65.        2.       4.4       4.4      24.4

      67.        1.       2.2       2.2      26.7

      68.        3.       6.7       6.7      33.3

      69.        1.       2.2       2.2      35.6

      71.        2.       4.4       4.4      40.0

      75.        2.       4.4       4.4      44.4

      76.        2.       4.4       4.4      48.9

      77.        1.       2.2       2.2      51.1

      79.        2.       4.4       4.4      55.6

      84.        1.       2.2       2.2      57.8

      89.        2.       4.4       4.4      62.2

      90.        4.       8.9       8.9      71.1

      92.        1.       2.2       2.2      73.3

      94.        1.       2.2       2.2      75.6

      95.        1.       2.2       2.2      77.8

      96.        1.       2.2       2.2      80.0

      97.        1.       2.2       2.2      82.2

      99.        1.       2.2       2.2      84.4

     100.        2.       4.4       4.4      88.9

     112.        1.       2.2       2.2      91.1

     114.        2.       4.4       4.4      95.6

     116.        1.       2.2       2.2      97.8

     117.        1.       2.2       2.2     100.0

    TOTAL       45.     100.0     100.0

VALID CASES=   45
MISSING CASES=    0

MEAN=    80.1111          VARIANCE=  384.5556
STD. DEV=   19.6101       STD. ERR=    2.9233
MAXIMUM=  117.0000        MINIMUM=   34.0000
RANGE=   83.0000
```

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```
DISTAT - ANALYSIS #9  -  PEABODY TESTING PROGRAM  --  HAPPY TALK

FREQUENCY DISTRIBUTION FOR VARIABLE # 2 (POSTTEST SCALE      )

                            RELATIVE   ADJUSTED  CUMULATIVE
              ABSOLUTE        FREQ       FREQ       FREQ
   CODE         FREQ         (PCT.)     (PCT.)     (PCT.)

    56.          1.            2.2        2.2        2.2

    57.          1.            2.2        2.2        4.4

    59.          1.            2.2        2.2        6.7

    67.          2.            4.4        4.4       11.1

    69.          2.            4.4        4.4       15.6

    71.          1.            2.2        2.2       17.8

    73.          1.            2.2        2.2       20.0

    75.          1.            2.2        2.2       22.2

    76.          2.            4.4        4.4       26.7

    78.          4.            8.9        8.9       35.6

    82.          2.            4.4        4.4       40.0

    83.          1.            2.2        2.2       42.2

    84.          1.            2.2        2.2       44.4

    85.          4.            8.9        8.9       53.3

    87.          1.            2.2        2.2       55.6

    89.          1.            2.2        2.2       57.8

    91.          3.            6.7        6.7       64.4

    95.          1.            2.2        2.2       66.7

    96.          1.            2.2        2.2       68.9

    97.          2.            4.4        4.4       73.3

    99.          2.            4.4        4.4       77.8

   100.          1.            2.2        2.2       80.0

   101.          1.            2.2        2.2       82.2

   103.          1.            2.2        2.2       84.4

   106.          2.            4.4        4.4       88.9

   109.          1.            2.2        2.2       91.1

   111.          2.            4.4        4.4       95.6

   114.          1.            2.2        2.2       97.8

   116.          1.            2.2        2.2      100.0

   TOTAL        45.          100.0      100.0

VALID CASES=   45
MISSING CASES=    0

MEAN=    86.8222              VARIANCE=  240.4222
STD. DEV=   15.5056           STD. ERR=    2.3114
MAXIMUM=  116.0000            MINIMUM=   56.0000
RANGE=   60.0000
```

```
DISTAT - ANALYSIS #9 - PEABODY TESTING PROGRAM -- HAPPY TALK

FREQUENCY DISTRIBUTION FOR VARIABLE # 3 (SCALE GAIN             )

                          RELATIVE  ADJUSTED  CUMULATIVE
                ABSOLUTE    FREQ      FREQ       FREQ
      CODE        FREQ     (PCT.)    (PCT.)     (PCT.)

      -24.         1.        2.2       2.4        2.4

      -20.         1.        2.2       2.4        4.9

      -15.         1.        2.2       2.4        7.3

      -14.         2.        4.4       4.9       12.2

      -12.         1.        2.2       2.4       14.6

       -9.         1.        2.2       2.4       17.1

       -8.         1.        2.2       2.4       19.5

       -7.         1.        2.2       2.4       22.0

       -6.         2.        4.4       4.9       26.8

       -1.         2.        4.4       4.9       31.7

        2.         2.        4.4       4.9       36.6

        3.         1.        2.2       2.4       39.0

        5.         1.        2.2       2.4       41.5

        6.         3.        6.7       7.3       48.8

        8.         3.        6.7       7.3       56.1

        9.         1.        2.2       2.4       58.5

       10.         2.        4.4       4.9       63.4

       11.         2.        4.4       4.9       68.3

       14.         2.        4.4       4.9       73.2

       16.         2.        4.4       4.9       78.0

       17.         1.        2.2       2.4       80.5

       21.         1.        2.2       2.4       82.9

       23.         1.        2.2       2.4       85.4

       26.         2.        4.4       4.9       90.2

       33.         1.        2.2       2.4       92.7

       34.         1.        2.2       2.4       95.1

       43.         1.        2.2       2.4       97.6

       51.         1.        2.2       2.4      100.0

        0.         4.        8.9     MISSING    100.0

     TOTAL        45.      100.0     100.0

VALID CASES=    41
MISSING CASES=     4

MEAN=      7.3659             VARIANCE=  271.3878
STD. DEV=    16.4739          STD. ERR=     2.5729
MAXIMUM=    51.0000           MINIMUM=   -24.0000
RANGE=   76.0000
```

Attachment A-14
(Page 1 of 3)

```
     *** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #2 - PEABODY  -  TITLE I AND MIGRANT

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   216
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (A3,T60,I1,T54,I2,T66,F3.0,T42,F3.0,T32,3F3.0,4(T40,F6.0),T55,3F1.0)

N OF TITLE I STUDENTS     = 122
N OF MIGRANT STUDENTS     =  94

INTERCORRELATION ANALYSIS.

MEANS            1          2          3          4          5          6          7          8
           96.3009    85.9861    49.2824    36.7037  7771.1250  4511.9954  3259.1296     0.5648

SIGMAS           1          2          3          4          5          6          7          8
           17.3730    19.4297    45.6425    43.7261  3298.2744  4698.3127  4267.8832     0.4958

R MATRIX         1          2          3          4          5          6          7          8

       1    1.0000     0.5756     0.2203     0.0258     0.5762     0.2890     0.1272     0.1173

       2    0.5756     1.0000     0.3094     0.1214     0.9855     0.4582     0.2572     0.0743

       3    0.2203     0.3094     1.0000    -0.9063     0.3110     0.9673    -0.8245     0.9478

       4    0.0258     0.1214    -0.9063     1.0000     0.1133    -0.8061     0.9749    -0.9563

       5    0.5762     0.9855     0.3110     0.1133     1.0000     0.4755     0.2493     0.0751

       6    0.2890     0.4582     0.9673    -0.8061     0.4755     1.0000    -0.7334     0.8430

       7    0.1272     0.2572    -0.8245     0.9749     0.2493    -0.7334     1.0000    -0.8700

       8    0.1173     0.0743     0.9478    -0.9563     0.0751     0.8430    -0.8700     1.0000
```

```
MODEL   1 01  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.5959      RSQ = 0.3551          51 ITERATICNS.

  V       BETA        B
  3     0.0        0.0
  4     0.0516     0.0205
  6     0.6581     0.0024
  7     0.9122     0.0037
  8     0.4055    14.2078
REG. CONST. =    64.4419


MODEL   2 02  CRITERICN =  1

PREDICTORS =  3- 5  8- 8

R = 0.5976      RSQ = 0.3572          10 ITERATIONS.

  V       BETA        B
  3    -0.3293    -0.1253
  4     0.3211     0.1276
  5     0.5903     0.0031
  8     0.6931    24.2866
REG. CONST. =    59.9175


MODEL   3 03  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.5944      RSQ = 0.3533          75 ITERATIONS.

  V       BETA        B
  3     1.1011     0.4191
  4     1.5899     0.6317
  8     0.5941    20.8194
REG. CONST. =    40.7009


MODEL   4 04  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.5804      RSQ = 0.3369           2 ITERATICNS.

  V       BETA        B
  2     0.5700     0.5097
  8     0.0750     2.6264
REG. CONST. =    50.9933
```

```
MODEL  5 05  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5756      RSQ = 0.3313          1 ITERATIONS.

  V      BETA       B
  2    0.5756    0.5146
REG. CONST. =   52.0484


F-TEST  1   F-TEST MODEL COMPARISONS - MODEL 1 VS MODEL 2
RSQ FULL =      0.3551      MODEL  1
RSQ REDUCED = 0.3572      MODEL  2
DIFFERENCE = -0.0020
DFN =  1.      DFD =  210.      F-RATIO =    0.0      P = 1.0000

F-TEST  2   F-TEST MODEL COMPARISONS - MODEL 2 VS MODEL 3
RSQ FULL =      0.3572      MODEL  2
RSQ REDUCED = 0.3533      MODEL  3
DIFFERENCE =  0.0039
DFN =  1.      DFD =  211.      F-RATIO =    1.274   P = 0.2592

F-TEST  3   F-TEST MODEL COMPARISONS - MODEL 3 VS MODEL 4
RSQ FULL =      0.3533      MODEL  3
RSQ REDUCED = 0.3369      MODEL  4
DIFFERENCE =  0.0164
DFN =  1.      DFD =  212.      F-RATIO =    5.383   P = 0.0201

F-TEST  4   F-TEST MODEL COMPARISONS - MODEL 4 VS MODEL 5
RSQ FULL =      0.3369      MODEL  4
RSQ REDUCED = 0.3313      MODEL  5
DIFFERENCE =  0.0056
DFN =  1.      DFD =  213.      F-RATIO =    1.794   P = 0.1784
```

```
*** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #1 - PEABODY  -  TITLE I, MIGRANT, AND HAPPY TALK

PARAMETERS
COL  1- 5 =     12
COL  6-10 =    261
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (A3,T60,I1,T54,I2,T66,F3.0,T42,F3.0,T32,3F3.0,4(T40,F6.0),T55,3F1.0)

N OF TITLE I STUDENTS     = 122
N OF MIGRANT STUDENTS     =  94
N OF HAPPY TALK STUDENTS =  45
N OF TITLE I"S WITH TEACHERS < 10 = 122
N OF MIGRANT"S WITH TEACHERS > 7  =  94


INTERCORRELATION ANALYSIS.


MEANS              1          2          3           4           5          6          7
             94.6667    84.9732    40.7854     30.3755     13.8123  7602.6207  3734.0651

MEANS              8          9         10          11          12
           2697.2107  1171.3448     0.4674      0.3602      0.1724



SIGMAS             1          2          3           4           5          6          7
             17.4107    19.5494    45.5040     42.1253     31.3140  3294.7368  4601.4234

SIGMAS             8          9         10          11          12
           4073.0767  2881.2921     0.4989      0.4800      0.3777
```

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R MATRIX	1	2	3	4	5	6	7
1	1.0000	0.5883	0.2666	0.0898	-0.1409	0.5925	0.3198
2	0.5883	1.0000	0.3017	0.1410	-0.0038	0.9861	0.4269
3	0.2666	0.3017	1.0000	-0.6463	-0.3954	0.3043	0.9714
4	0.0898	0.1410	-0.6463	1.0000	-0.3181	0.1343	-0.5852
5	-0.1409	-0.0038	-0.3954	-0.3181	1.0000	-0.0072	-0.3579
6	0.5925	0.9861	0.3043	0.1343	-0.0072	1.0000	0.4438
7	0.3198	0.4269	0.9714	-0.5852	-0.3579	0.4438	1.0000
8	0.1722	0.2559	-0.5935	0.9770	-0.2921	0.2503	-0.5374
9	-0.0767	0.0841	-0.3644	-0.2931	0.9763	0.0810	-0.3299
10	0.1842	0.1093	0.9567	-0.6755	-0.4132	0.1097	0.8662
11	-0.0296	-0.0243	-0.6725	0.9611	-0.3309	-0.0259	-0.6088
12	-0.2056	-0.1135	-0.4091	-0.3291	0.9664	-0.1120	-0.3704

R MATRIX	8	9	10	11	12
1	0.1722	-0.0767	0.1842	-0.0296	-0.2056
2	0.2559	0.0841	0.1093	-0.0243	-0.1135
3	-0.5935	-0.3644	0.9567	-0.6725	-0.4091
4	0.9770	-0.2931	-0.6755	0.9611	-0.3291
5	-0.2921	0.9763	-0.4132	-0.3309	0.9664
6	0.2503	0.0810	0.1097	-0.0259	-0.1120
7	-0.5374	-0.3299	0.8662	-0.6088	-0.3704
8	1.0000	-0.2692	-0.6204	0.8826	-0.3023
9	-0.2692	1.0000	-0.3809	-0.3050	0.8907
10	-0.6204	-0.3809	1.0000	-0.7029	-0.4276
11	0.8826	-0.3050	-0.7029	1.0000	-0.3424
12	-0.3023	0.8907	-0.4276	-0.3424	1.0000

Attachment A-15
(continued, page 2 of 4)

80.71

```
MODEL  1 01  CRITERION =  1

PREDICTORS =  3- 5  7-12

R = 0.6240      RSQ = 0.3894         33 ITERATIONS.

  V       BETA        B
  3     0.0         0.0
  4     0.0038      0.0016
  5     0.0         0.0
  7     0.6518      0.0025
  8     0.8942      0.0038
  9     0.5025      0.0030
 10     0.3495     12.1963
 11    -0.0267     -0.9694
 12     0.0         0.0
REG. CONST. =      66.1928


MODEL  2 02  CRITERION =  1

PREDICTORS =  3- 6 10-12

R = 0.6251      RSQ = 0.3908         64 ITERATIONS.

  V       BETA        B
  3    -0.4900     -0.1875
  4     0.1331      0.0550
  5    -0.0792     -0.0440
  6     0.6577      0.0035
 10     0.1641      5.7256
 11    -0.4871    -17.6650
 12    -0.3111    -14.3385
REG. CONST. =      80.9857


MODEL  3 03  CRITERION =  1

PREDICTORS =  3- 5 10-12

R = 0.6195      RSQ = 0.3837        100 ITERATIONS.

  V       BETA        B
  3     1.0972      0.4198
  4     1.5105      0.6243
  5     0.9067      0.5041
 10     0.3699     12.9071
 11    -0.1991     -7.2219
 12    -0.0454     -2.0932
REG. CONST. =      48.5454
```

```
MODEL  4 04  CRITERION =  1

PREDICTORS =  2- 2 10-12

R = 0.6085     RSQ = 0.3703          4 ITERATIONS.

  V      BETA       B
  2     0.5677    0.5056
 10     0.0       0.0
 11    -0.0751   -2.7249
 12    -0.1658   -7.6424
REG. CONST. =   54.0071


MODEL  5 05  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5883     RSQ = 0.3461          1 ITERATIONS.

  V      BETA       B
  2     0.5883    0.5239
REG. CONST. =   50.1456


F-TEST  1   F-TEST MODEL COMPARISONS - MODEL 1 VS MODEL 2
RSQ FULL =     0.3894      MODEL  1
RSQ REDUCED = 0.3908      MODEL  2
DIFFERENCE = -0.0013
DFN =  2.      DFD =  232.      F-RATIO =    0.0      P = 1.0000

F-TEST  2   F-TEST MODEL COMPARISONS - MODEL 2 VS MODEL 3
RSQ FULL =     0.3908      MODEL  2
RSQ REDUCED = 0.3837      MODEL  3
DIFFERENCE =  0.0070
DFN =  1.      DFD =  234.      F-RATIO =    2.700    P = 0.0976

F-TEST  3   F-TEST MODEL COMPARISONS - MODEL 3 VS MODEL 4
RSQ FULL =     0.3837      MODEL  3
RSQ REDUCED = 0.3703      MODEL  4
DIFFERENCE =  0.0135
DFN =  2.      DFD =  235.      F-RATIO =    2.568    P = 0.0768

F-TEST  4   F-TEST MODEL COMPARISONS - MODEL 4 VS MODEL 5
RSQ FULL =     0.3703      MODEL  4
RSQ REDUCED = 0.3461      MODEL  5
DIFFERENCE =  0.0242
DFN =  2.      DFD =  237.      F-RATIO =    4.550    P = 0.0115
```

80.71

```
      *** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #5 - PEABODY  -  MIGRANT AND SPLIT-FUNDED CLASSES

PARAMETERS
COL   1- 5 =     20
COL   6-10 =     94
COL  11-15 =      3
COL  16-20 =      2
COL  21-25 =      1

DATA FORMAT = (A3,T60,I1,T54,I2,T66,F3.0,T42,F3.0,9(T32,F3.0),9(F1.0))


INTERCORRELATION ANALYSIS.


MEANS                  1          2          3          4          5          6          7          8          9         10
                 93.9787    84.3404     3.6277     7.4362     6.5106     7.7872    17.7553     6.2021     8.7553    14.6915

MEANS                 11         12         13         14         15         16         17         18         19         20
                  9.5745     0.0532     0.0851     0.0851     0.0957     0.1915     0.0957     0.1170     0.1596     0.1170


SIGMAS                 1          2          3          4          5          6          7          8          9         10
                 18.9214    19.3844    15.8765    25.0479    22.0472    24.7824    37.4045    25.7854    24.5629    34.1181

SIGMAS                11         12         13         14         15         16         17         18         19         20
                 27.1996     0.2244     0.2790     0.2790     0.2942     0.3935     0.2942     0.3214     0.3662     0.3214


R MATRIX               1          2          3          4          5          6          7          8          9         10

          1       1.0000     0.6567     0.0511     0.1003    -0.0959     0.0031     0.1689     0.0226    -0.0953     0.1671

          2       0.6567     1.0000    -0.1324     0.1144    -0.0483     0.0375     0.2991     0.0808    -0.1227     0.2129

          3       0.0511    -0.1324     1.0000    -0.0678    -0.0675    -0.0718    -0.1085    -0.0727    -0.0814    -0.0984

          4       0.1003     0.1144    -0.0678     1.0000    -0.0877    -0.0933    -0.1409    -0.0944    -0.1058    -0.1278

          5      -0.0959    -0.0483    -0.0675    -0.0877     1.0000    -0.0928    -0.1402    -0.0939    -0.1053    -0.1272

          6       0.0031     0.0375    -0.0718    -0.0933    -0.0928     1.0000    -0.1492    -0.1000    -0.1120    -0.1353

          7       0.1689     0.2991    -0.1085    -0.1409    -0.1402    -0.1492     1.0000    -0.1510    -0.1692    -0.2044

          8       0.0226     0.0808    -0.0727    -0.0944    -0.0939    -0.1000    -0.1510     1.0000    -0.1134    -0.1370

          9      -0.0953    -0.1227    -0.0814    -0.1058    -0.1053    -0.1120    -0.1692    -0.1134     1.0000    -0.1535

         10       0.1671     0.2129    -0.0984    -0.1278    -0.1272    -0.1353    -0.2044    -0.1370    -0.1535     1.0000

         11       0.0435     0.0455    -0.0804    -0.1045    -0.1039    -0.1106    -0.1671    -0.1120    -0.1255    -0.1516

         12       0.0303    -0.1974     0.9640    -0.0704    -0.0700    -0.0745    -0.1125    -0.0754    -0.0845    -0.1021

         13       0.0568     0.0477    -0.0697     0.9734    -0.0901    -0.0958    -0.1448    -0.0970    -0.1087    -0.1313

         14      -0.1645    -0.1234    -0.0697    -0.0905     0.9682    -0.0958    -0.1448    -0.0970    -0.1087    -0.1313
```

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80.71

16	0.1091	0.2104	-0.1112	-0.1445	-0.1437	-0.1529	0.9754	-0.1548	-0.1735	-0.2096
17	-0.0321	0.0223	-0.0744	-0.0966	-0.0961	-0.1022	-0.1545	0.9776	-0.1160	-0.1401
18	-0.1255	-0.1788	-0.0832	-0.1081	-0.1075	-0.1144	-0.1728	-0.1158	0.9791	-0.1568
19	0.1448	0.1737	-0.0996	-0.1294	-0.1287	-0.1369	-0.2068	-0.1386	-0.1553	0.9882
20	-0.0153	-0.0474	-0.0832	-0.1081	-0.1075	-0.1144	-0.1728	-0.1158	-0.1298	-0.1568

R MATRIX	11	12	13	14	15	16	17	18	19	20
1	0.0435	0.0303	0.0568	-0.1649	-0.0608	0.1091	-0.0321	-0.1255	0.1448	-0.0153
2	0.0455	-0.1974	0.0477	-0.1234	-0.0505	0.2104	0.0223	-0.1788	0.1737	-0.0474
3	-0.0804	0.9640	-0.0697	-0.0697	-0.0744	-0.1112	-0.0744	-0.0832	-0.0996	-0.0832
4	-0.1045	-0.0704	0.9734	-0.0905	-0.0966	-0.1445	-0.0966	-0.1081	-0.1294	-0.1081
5	-0.1039	-0.0700	-0.0901	0.9682	-0.0961	-0.1437	-0.0961	-0.1075	-0.1287	-0.1075
6	-0.1106	-0.0745	-0.0958	-0.0958	0.9657	-0.1529	-0.1022	-0.1144	-0.1369	-0.1144
7	-0.1671	-0.1125	-0.1448	-0.1448	-0.1545	0.9754	-0.1545	-0.1728	-0.2068	-0.1728
8	-0.1120	-0.0754	-0.0970	-0.0970	-0.1035	-0.1548	0.9776	-0.1158	-0.1386	-0.1158
9	-0.1255	-0.0845	-0.1087	-0.1087	-0.1160	-0.1735	-0.1160	0.9791	-0.1553	-0.1298
10	-0.1516	-0.1021	-0.1313	-0.1313	-0.1401	-0.2096	-0.1401	-0.1568	0.9882	-0.1568
11	1.0000	-0.0834	-0.1074	-0.1074	-0.1145	-0.1713	-0.1145	-0.1281	-0.1534	0.9669
12	-0.0834	1.0000	-0.0723	-0.0723	-0.0771	-0.1154	-0.0771	-0.0863	-0.1033	-0.0863
13	-0.1074	-0.0723	1.0000	-0.0930	-0.0992	-0.1484	-0.0992	-0.1110	-0.1329	-0.1110
14	-0.1074	-0.0723	-0.0930	1.0000	-0.0992	-0.1484	-0.0992	-0.1110	-0.1329	-0.1110
15	-0.1145	-0.0771	-0.0992	-0.0992	1.0000	-0.1584	-0.1059	-0.1185	-0.1418	-0.1185
16	-0.1713	-0.1154	-0.1484	-0.1484	-0.1584	1.0000	-0.1584	-0.1772	-0.2121	-0.1772
17	-0.1145	-0.0771	-0.0992	-0.0992	-0.1059	-0.1584	1.0000	-0.1185	-0.1418	-0.1165
18	-0.1281	-0.0863	-0.1110	-0.1110	-0.1185	-0.1772	-0.1185	1.0000	-0.1586	-0.1325
19	-0.1534	-0.1033	-0.1329	-0.1329	-0.1418	-0.2121	-0.1418	-0.1586	1.0000	-0.1586
20	0.9669	-0.0863	-0.1110	-0.1110	-0.1185	-0.1772	-0.1185	-0.1325	-0.1586	1.0000

Attachment A-16
(continued, page 2 of 3)

```
MODEL  1 01  CRITERION =  1

PREDICTORS =  3-20

R = 0.6936      RSQ = 0.4811         379 ITERATIONS.

  V       BETA         B
  3     0.3544     0.4223
  4     0.8349     0.6307
  5     1.0032     0.8610
  6     0.8709     0.6650
  7     1.3561     0.6860
  8     1.1422     0.8382
  9     0.7398     0.5699
 10     1.1030     0.6117
 11     0.8798     0.6093
 12     0.2815    23.7350
 13    -0.0220    -1.4890
 14    -0.3833   -25.9897
 15    -0.1149    -7.3865
 16    -0.1940    -9.3285
 17    -0.3639   -23.3985
 18     0.0162     0.9539
 19     0.0        0.0
 20    -0.0079    -0.4642
REG. CONST. =   43.8613


MODEL  2 02  CRITERION =  1

PREDICTORS =  2- 2 12-20

R = 0.6836      RSQ = 0.4672         13 ITERATICNS.

  V       BETA         B
  2     0.6792     0.6629
 12     0.1544    13.0208
 13     0.0174     1.1769
 14    -0.0758    -5.1399
 15    -0.0298    -1.9139
 16    -0.0329    -1.5827
 17    -0.0458    -2.9473
 18    -0.0065    -0.3832
 19     0.0195     1.0055
 20     0.0141     0.8300
REG. CONST. =   38.2672


MODEL  3 03  CRITERICN =  1

PREDICTORS =  2- 2

R = 0.6567      RSQ = 0.4312         1 ITERATICNS.

  V      BETA        B
  2    0.6567    0.6410
REG. CCNST. =   39.9193

F-TEST  1   F-TEST MODEL COMPARISCNS - MCDEL 1 VS MODEL 2
RSQ FULL =      0.4811      MODEL  1
RSQ REDUCED = 0.4672      MODEL  2
DIFFERENCE =  0.0139
DFN =  8.      DFD =   76.      F-RATIC =   0.254   P = 0.9775

F-TEST  2   F-TEST MODEL COMPARISONS - MCDEL 2 VS MODEL 3
RSQ FULL =      0.4672      MODEL  2
RSQ REDUCED = 0.4312      MODEL  3
DIFFERENCE =  0.0361
DFN =  9.      DFD =   84.      F-RATIO =   0.711   P = 0.6831
```

Attachment A-17
(Page 1 of 3)

```
    *** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #4 - PEABODY  -  TITLE I AND SPLIT-FUNDED CLASSES

PARAMETERS
COL  1- 5 =    20
COL  6-10 =   122
COL 11-15 =     3
COL 16-20 =     2
COL 21-25 =     1

DATA FORMAT = (A3,T60,I1,T54,I2,T66,F3.0,T42,F3.0,9(T32,F3.0),9(F1.0))

INTERCORRELATION ANALYSIS.

MEANS            1          2          3          4          5          6          7          8          9         10
              98.0902    87.2541    10.7295    12.5984    10.9836     8.4918    12.4754     9.8279    11.8361     4.6311

MEANS           11         12         13         14         15         16         17         18         19         20
               5.6803     0.1230     0.1230     0.1148     0.1148     0.1393     0.1148     0.1393     0.0656     0.0656

SIGMAS           1          2          3          4          5          6          7          8          9         10
              15.8482    19.3694    29.4563    33.7890    31.0512    24.9699    32.1608    27.6203    30.0189    17.7206

SIGMAS          11         12         13         14         15         16         17         18         19         20
              21.5970     0.3284     0.3284     0.3187     0.3187     0.3463     0.3187     0.3463     0.2475     0.2475

R MATRIX         1          2          3          4          5          6          7          8          9         10

       1      1.0000     0.4991     0.0372     0.2637    -0.0040    -0.0103    -0.0185     0.0181     0.1341    -0.1259

       2      0.4991     1.0000     0.0817     0.3074     0.2103    -0.0937     0.1628     0.0036     0.0146    -0.1999

       3      0.0372     0.0817     1.0000    -0.1358    -0.1288    -0.1239    -0.1413    -0.1296    -0.1436    -0.0952

       4      0.2637     0.3074    -0.1358     1.0000    -0.1319    -0.1268    -0.1446    -0.1327    -0.1470    -0.0974

       5     -0.0040     0.2103    -0.1288    -0.1319     1.0000    -0.1203    -0.1372    -0.1259    -0.1395    -0.0924

       6     -0.0103    -0.0937    -0.1239    -0.1268    -0.1203     1.0000    -0.1319    -0.1210    -0.1341    -0.0889

       7     -0.0185     0.1628    -0.1413    -0.1446    -0.1372    -0.1319     1.0000    -0.1380    -0.1529    -0.1014

       8      0.0181     0.0036    -0.1296    -0.1327    -0.1259    -0.1210    -0.1380     1.0000    -0.1403    -0.0930

       9      0.1341     0.0146    -0.1436    -0.1470    -0.1395    -0.1341    -0.1529    -0.1403     1.0000    -0.1030

      10     -0.1259    -0.1999    -0.0952    -0.0974    -0.0924    -0.0889    -0.1014    -0.0930    -0.1030     1.0000

      11     -0.0765     0.0073    -0.0958    -0.0981    -0.0913    -0.0854    -0.1020    -0.0936    -0.1037    -0.0667

      12      0.0057     0.0002     0.9729    -0.1397    -0.1324    -0.1273    -0.1452    -0.1332    -0.1476    -0.0979

      13      0.2514     0.2941    -0.1364     0.5958    -0.1324    -0.1273    -0.1452    -0.1332    -0.1476    -0.0979

      14     -0.0167     0.1573    -0.1311    -0.1342     0.9825    -0.1224    -0.1397    -0.1281    -0.1420    -0.0941
```

16	-0.1277	0.0473	-0.1466	-0.1500	-0.1423	-0.1368	0.9640	-0.1432	-0.1587	-0.1052
17	0.0012	-0.0300	-0.1311	-0.1342	-0.1274	-0.1224	-0.1397	0.9883	-0.1420	-0.0941
18	0.1112	-0.0480	-0.1466	-0.1500	-0.1423	-0.1368	-0.1561	-0.1432	0.9799	-0.1052
19	-0.1540	-0.2274	-0.0965	-0.0988	-0.0937	-0.0901	-0.1028	-0.0943	-0.1044	0.9865
20	-0.0851	-0.0086	-0.0965	-0.0988	-0.0937	-0.0901	-0.1028	-0.0943	-0.1044	-0.0692

R MATRIX	11	12	13	14	15	16	17	18	19	20
1	-0.0765	0.0057	0.2514	-0.0167	-0.0459	-0.1277	0.0012	0.1112	-0.1540	-0.0851
2	0.0073	0.0002	0.2941	0.1573	-0.2464	0.0473	-0.0300	-0.0480	-0.2274	-0.0086
3	-0.0958	0.9729	-0.1364	-0.1311	-0.1311	-0.1466	-0.1311	-0.1466	-0.0965	-0.0965
4	-0.0981	-0.1396	0.9958	-0.1342	-0.1342	-0.1500	-0.1342	-0.1500	-0.0988	-0.0988
5	-0.0930	-0.1324	-0.1324	0.9825	-0.1274	-0.1423	-0.1274	-0.1423	-0.0937	-0.0937
6	-0.0894	-0.1273	-0.1273	-0.1224	0.9446	-0.1368	-0.1224	-0.1368	-0.0901	-0.0901
7	-0.1020	-0.1452	-0.1452	-0.1397	-0.1397	0.9640	-0.1397	-0.1561	-0.1028	-0.1028
8	-0.0936	-0.1332	-0.1332	-0.1281	-0.1281	-0.1432	0.9883	-0.1432	-0.0943	-0.0943
9	-0.1037	-0.1476	-0.1476	-0.1420	-0.1420	-0.1587	-0.1420	0.9799	-0.1044	-0.1044
10	-0.0687	-0.0979	-0.0979	-0.0941	-0.0941	-0.1052	-0.0941	-0.1052	0.9865	-0.0692
11	1.0000	-0.0985	-0.0985	-0.0947	-0.0947	-0.1058	-0.0947	-0.1058	-0.0697	0.9929
12	-0.0985	1.0000	-0.1402	-0.1348	-0.1348	-0.1507	-0.1348	-0.1507	-0.0992	-0.0992
13	-0.0985	-0.1402	1.0000	-0.1348	-0.1348	-0.1507	-0.1348	-0.1507	-0.0992	-0.0992
14	-0.0947	-0.1348	-0.1348	1.0000	-0.1296	-0.1449	-0.1296	-0.1449	-0.0954	0.0954
15	-0.0947	-0.1348	-0.1348	-0.1296	1.0000	-0.1449	-0.1296	-0.1449	-0.0954	-0.0954
16	-0.1058	-0.1507	-0.1507	-0.1449	-0.1449	1.0000	-0.1449	-0.1619	-0.1066	-0.1066
17	-0.0947	-0.1348	-0.1348	-0.1296	-0.1296	-0.1449	1.0000	-0.1449	-0.0954	-0.0954
18	-0.1058	-0.1507	-0.1507	-0.1449	-0.1449	-0.1619	-0.1449	1.0000	-0.1066	-0.1066
19	-0.0697	-0.0992	-0.0992	-0.0954	-0.0954	-0.1066	-0.0954	-0.1066	1.0000	-0.0702
20	0.9929	-0.0992	-0.0992	-0.0954	-0.0954	-0.1066	-0.0954	-0.1066	-0.0702	1.0000

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(continued, page 2 of 3)

```
MODEL  1 01  CRITERION =  1

PREDICTORS =  3-20

R = 0.6134      RSQ = 0.3762         209 ITERATIONS.

  V       BETA        B
  3    0.5945    0.3199
  4    1.7569    0.8240
  5    0.4270    0.2180
  6    0.3347    0.2125
  7    1.4302    0.7048
  8    0.5743    0.3295
  9    0.7195    0.3798
 10    1.0153    0.9080
 11    0.3587    0.2632
 12    0.0       0.0
 13   -0.9545  -46.0635
 14    0.1201    5.9739
 15    0.1982    9.8564
 16   -0.8820  -40.3656
 17   -0.0077   -0.3851
 18   -0.0072   -0.3276
 19   -0.7136  -45.6904
 20   -0.0035   -0.2265
REG. CONST. =   70.4236


MODEL  2 02  CRITERION =  1

PREDICTORS =  2- 2 12-20

R = 0.5615      RSQ = 0.3153          15 ITERATIONS.

  V       BETA        B
  2    0.5067    0.4145
 12   -0.0221   -1.0669
 13    0.0611    2.9477
 14   -0.1143   -5.6832
 15    0.0444    2.2080
 16   -0.1589   -7.2699
 17   -0.0136   -0.6752
 18    0.0869    3.9786
 19   -0.0595   -3.8121
 20   -0.0969   -6.2067
REG. CONST. =   63.2800


MODEL  3 03  CRITERION =  1

PREDICTORS =  2- 2

R = 0.4991      RSQ = 0.2491           1 ITERATIONS.

  V       BETA        B
  2    0.4991    0.4083
REG. CONST. =   62.4608

F-TEST  1   F-TEST MODEL COMPARISONS - MODEL 1 VS MODEL 2
RSQ FULL =     0.3762      MODEL  1
RSQ REDUCED = 0.3153      MODEL  2
DIFFERENCE =  0.0609
DFN =  1.     DFD =  104.     F-RATIO =  10.158    P = 0.0023

F-TEST  2   F-TEST MODEL COMPARISONS - MODEL 2 VS MODEL 3
RSQ FULL =     0.3153      MODEL  2
RSQ REDUCED = 0.2491      MODEL  3
DIFFERENCE =  0.0662
DFN =  1.     DFD =  112.     F-RATIO =  10.837    P = 0.0017
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #6 - PEABODY  -  HAPPY TALK AND 1979/80 CONTROL

PARAMETERS
COL   1- 5 =      8
COL   6-10 =     71
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (A3,T60,I1,T66,F3.0,T42,F3.0,T32,2F3.0,3(T40,F6.0),T55,1F1.0)

N OF HAPPY TALK STUDENTS  =  45
N OF CONTROL STUDENTS     =  26


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
             84.1972    79.4789    50.7746    28.7042  6640.1549  4305.9296  2334.2254     0.6338


SIGMAS             1          2          3          4          5          6          7          8
             16.9071    17.9795    41.5676    38.8625  2916.4252  4125.6206  3403.9405     0.4910


R MATRIX           1          2          3          4          5          6          7          8

     1        1.0000     0.4302     0.3544    -0.1801     0.4394     0.4435    -0.1610     0.2043

     2        0.4302     1.0000     0.3618     0.0756     0.9898     0.5537     0.1770     0.0463

     3        0.3544     0.3618     1.0000    -0.9022     0.3807     0.9602    -0.8376     0.9285

     4       -0.1801     0.0756    -0.9022     1.0000     0.0507    -0.7709     0.9778    -0.9717

     5        0.4394     0.9898     0.3807     0.0507     1.0000     0.5791     0.1547     0.0693

     6        0.4435     0.5537     0.9602    -0.7709     0.5791     1.0000    -0.7157     0.7933

     7       -0.1610     0.1770    -0.8376     0.9778     0.1547    -0.7157     1.0000    -0.9022

     8        0.2043     0.0463     0.9285    -0.9717     0.0693     0.7933    -0.9022     1.0000
```

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```
MODEL  1 01  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.5426      RSQ = 0.2945       1000 ITERATIONS.

  V      BETA        B
  3   -2.7733    -1.1280
  4    3.6701     1.5967
  6    2.4325     0.0100
  7   -1.8502    -0.0092
  8    2.7501    96.5113
REG. CONST. =    12.9980


MODEL  2 02  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.4980      RSQ = 0.2480         22 ITERATICNS.

  V      BETA        B
  3    0.0        0.0
  4   -0.7557    -0.3288
  5    0.5168     0.0030
  8   -0.5637   -19.7838
REG. CONST. =    86.2778


MODEL  3 03  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.4945      RSQ = 0.2445         57 ITERATICNS.

  V      BETA        B
  3    1.2030     0.4893
  4    0.2797     0.1217
  8   -0.6438   -22.5934
REG. CONST. =    70.1793


MODEL  4 04  CRITERICN =  1

PREDICTORS =  2- 2  8- 8

R = 0.4681      RSQ = 0.2192          2 ITERATICNS.

  V      BETA        B
  2    0.4217     0.3965
  8    0.1848     6.4838
REG. CONST. =    48.5727
```

```
MODEL  5 05  CRITERION =  1

PREDICTORS =  2- 2

R = 0.4302      RSQ = 0.1851          1 ITERATIONS.

  V      BETA       B
  2    0.4302    0.4046
REG. CONST. =    52.0434


F-TEST  1   F-TEST MODEL COMPARISONS - MODEL 1 VS MOCEL 2
RSQ FULL =      0.2945      MODEL  1
RSQ REDUCED = 0.2480      MODEL  2
DIFFERENCE =  0.0464
DFN =  1.      DFD =   65.     F-RATIO =    4.278    P = 0.0401


F-TEST  2   F-TEST MODEL COMPARISONS - MODEL 2 VS MCCEL 3
RSQ FULL =      0.2480      MODEL  2
RSQ REDUCED = 0.2445      MODEL  3
DIFFERENCE =  0.0035
DFN =  1.      DFD =   66.     F-RATIO =    0.307    P = 0.5980


F-TEST  3   F-TEST MODEL COMPARISONS - MODEL 2 VS MOCEL 3
RSQ FULL =      0.2445      MODEL  3
RSQ REDUCED = 0.2192      MODEL  4
DIFFERENCE =  0.0254
DFN =  1.      DFD =   67.     F-RATIO =    2.251    P = 0.1344


F-TEST  4   F-TEST MODEL COMPARISONS - MODEL 2 VS MODEL 3
RSQ FULL =      0.2192      MODEL  4
RSQ REDUCED = 0.1851      MODEL  5
DIFFERENCE =  0.0341
DFN =  1.      DFD =   68.     F-RATIO =    2.966    P = 0.0958
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

REGRAN - ANALYSIS #3 - PEABODY  -  TITLE I AND HAPPY TALK

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   167
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (A3,T60,I1,T54,I2,T66,F3.0,T42,F3.0,T32,F3.0,4(T40,F6.0),T55,3F1.0)

N OF TITLE I STUDENTS     = 122
N OF HAPPY TALK STUDENTS =  45


INTERCORRELATION ANALYSIS.


MEANS             1          2          3          4          5          6          7          8
            95.0539    85.3293    63.7425    21.5868  7666.5389  5835.8743  1830.6647     0.7305


SIGMAS            1          2          3          4          5          6          7          8
            16.4871    19.6327    42.1042    36.9415  1350.4750  4563.4412  3430.4146     0.4437


R MATRIX          1          2          3          4          5          6          7          8

      1      1.0000     0.5468     0.4400    -0.2109     0.5623     0.5022    -0.1189     0.3032

      2      0.5468     1.0000     0.4800    -0.0156     0.9834     0.6466     0.1002     0.1614

      3      0.4400     0.4800     1.0000    -0.8847     0.4765     0.9572    -0.8079     0.9195

      4     -0.2109    -0.0156    -0.8847     1.0000    -0.0205    -0.7473     0.9741    -0.9622

      5      0.5623     0.9834     0.4765    -0.0205     1.0000     0.6633     0.0943     0.1582

      6      0.5022     0.6466     0.9572    -0.7473     0.6633     1.0000    -0.6825     0.7767

      7     -0.1189     0.1002    -0.8079     0.9741     0.0943    -0.6825     1.0000    -0.8787

      8      0.3032     0.1614     0.9195    -0.9622     0.1582     0.7767    -0.8787     1.0000
```

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```
MODEL  1 01  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6072      RSQ = 0.3687         120 ITERATIONS.

  V       BETA        B
  3    -0.2952    -0.1156
  4    -0.2721    -0.1214
  6     0.8514     0.0031
  7     0.8084     0.0039
  8     0.3620    13.4504
REG. CONST. =     70.1536


MODEL  2 02  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6064      RSQ = 0.3677          34 ITERATIONS.

  V       BETA        B
  3    -0.3366    -0.1318
  4    -0.0302    -0.0135
  5     0.6452     0.0032
  8     0.4835    17.9666
REG. CONST. =     66.2807


MODEL  3 03  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.5899      RSQ = 0.3480          46 ITERATIONS.

  V       BETA        B
  3     1.0588     0.4146
  4     1.0660     0.4758
  8     0.3527    13.1045
REG. CONST. =     48.7821


MODEL  4 04  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.5886      RSQ = 0.3465           2 ITERATIONS.

  V       BETA        B
  2     0.5112     0.4293
  8     0.2207     8.2015
REG. CONST. =     52.4310
```

```
MODEL  5 05  CRITERION =  1

PREDICTORS =  2= 2

R = 0.5468      RSQ = 0.2990          1 ITERATIONS.

  V      BETA       B
  2    0.5468    0.4592
REG. CONST. =   55.8695


F-TEST  1   F-TEST MODEL COMPARISONS - MODEL 1 VS MODEL 2
RSQ FULL =     0.3687      MODEL  1
RSQ REDUCED = 0.3677      MODEL  2
DIFFERENCE =  0.0010
DFN =  1.      DFD =  161.      F-RATIO =    0.263    P = 0.6149

F-TEST  2   F-TEST MODEL COMPARISONS - MODEL 2 VS MODEL 3
RSQ FULL =     0.3677      MODEL  2
RSQ REDUCED = 0.3480      MODEL  3
DIFFERENCE =  0.0196
DFN =  1.      DFD =  162.      F-RATIO =    5.033    P = 0.0246

F-TEST  3   F-TEST MODEL COMPARISONS - MODEL 3 VS MODEL 4
RSQ FULL =     0.3480      MODEL  3
RSQ REDUCED = 0.3465      MODEL  4
DIFFERENCE =  0.0016
DFN =  1.      DFD =  163.      F-RATIO =    0.389    P = 0.5411

F-TEST  4   F-TEST MODEL COMPARISONS - MODEL 4 VS MODEL 5
RSQ FULL =     0.3465      MODEL  4
RSQ REDUCED = 0.2990      MODEL  5
DIFFERENCE =  0.0474
DFN =  1.      DFD =  164.      F-RATIO =   11.905    P = 0.0011
```

ESEA Title I

Appendix B

BOEHM TEST OF BASIC CONCEPTS

80.71

Instrument Description: Boehm Test of Basic Concepts (BTBC)

Brief description of the instrument:

Fifty items arranged in order of their difficulty. Each item consists of a set of pictures about which statements are read to the students. These statements briefly describe the pictures and ask the child to mark the one illustrating the concept area.

To whom was the instrument administered?

All kindergarten students.

How many times was the instrument administered?

Once to all kindergarten students, and once to all kindergarten students in Title I schools.

When was the instrument administered?

September 8-12, 1980. Make-up tests were administered the following week. Title I posttesting took place February 9-13, with make-ups the following week.

Where was the instrument administered?

In the classroom.

Who administered the instrument?

The classroom teacher.

What training did the administrators have?

The Boehm comes with a complete set of instructions for administering the test. ORE provided each teacher with a checklist to help structure the activities surrounding the test administration. No attempt was made to monitor training activities provided on campus by the principal and/or counselors.

Was the instrument administered under standardized conditions?

Standardized instructions were distributed. Individual variations in administration procedures may have occurred.

Were there problems with the instrument or the administration that might affect the validity of the data?

None that SWT staff is aware of.

Who developed the instrument?

Ann E. Boehm, published by the Psychological Corporation.

What reliability and validity data are available on the instrument?

Split-half reliability coefficients, corrected by the Spearman-Brown Formula, ranged from .68 to .90 in the standardization sample. No validity data are reported. Locally, correlation coefficients ranging from .35 to .31 were found between the Boehm and the CAT Reading Total for limited English-speaking students (1st grade level).

Are there norm data available for interpreting the results?

Standardization sample consisted of low, middle, and high socio-economic level students from kindergarten, first, and second grades in sixteen cities around the country. Percentiles corresponding to various raw scores are reported for beginning and mid year testing in each of the SES levels by grade classifications.

BEST COPY AVAILABLE

BOEHM TEST OF BASIC CONCEPTS

Purpose

Results of the Boehm Test of Basic Concepts were used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1980-81.

Decision Question D1: Should the Title I Reading Improvement Program be modified? If so, how?

Evaluation Question D1-1: Were the objectives of the Title I reading component met?

Evaluation Question D1-7: How many Title I students scored high enough to exit from the Title I program during 1979-1980?

Decision Question D2: Should Title I schoolwide projects be continued, expanded, or revised? If so, how?

Evaluation Question D2-1: Were the objectives of the schoolwide projects met?

Evaluation Question D2-2: Were the achievement gains made by low-achieving students (40th percentile or below) in the schoolwide projects equal to the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: Were the achievement gains made by high-achieving students (above 40th percentile) in the schoolwide projects equal to the gains made by high-achieving students in regular Title I schools?

Decision Question D3: Should the Rainbow Kit project be continued, modified, or discontinued?

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of non-participants in the control group?

Decision Question D4: Should the Title I Early Childhood Education Program be continued, modified, or discontinued? If so, how?

Evaluation Question D4-3: Did former Pre-K participants score higher than other students in their schools when entering kindergarten and first grade?

Decision Question D5: Should the Happy Talk Program be continued, modified, or discontinued?

> Evaluation Question D5-3: Did Happy Talk participants outscore the other students in their schools when entering kindergarten?

The information gathered was used in partial fulfillment of Information Needs I2, I3, and I4 for the 1981-1982 Needs Assessment.

I2: How similar are the results when the schools are ranked for Title I eligibility in each way possible under Title I regulations?

I3: How many students in each school scored below selected percentile points on the Boehm, MRT, and ITBS?

I4: How many students would be eligible for Title I services for various combinations of criteria for campus and student eligibility?

Procedure

The Boehm Test of Basic Concepts was administered by the Systemwide Testing Program in all kindergarten classes in AISD during the fall of 1980. The testing occurred September 8-12, with makeups being given September 15-19. Classroom teachers administered the test to their own students. Booklets were then forwarded to ORE for scoring.

In the spring, kindergarten classes in Title I schools and a few others where requested were posttested on February 9-13, with makeups on February 16-20.

Detailed procedures are outlined in the Final Technical Report, Systemwide Evaluation, publication number 80.39.

In addition, students who entered Title I schools after the September testing and did not have a comparable score were given the Boehm to determine their Title I eligibility. The Boehm was also given to students whom teachers felt had received invalid test scores in September.

Because so many analyses were done using the Boehm data, procedures are described briefly along with the results related to each evaluationnn question.

Results

The Boehm results are presented by evaluation question or information need.

Evaluation Question D1-1: Were the objectives of the Title I reading component met?

The Texas Education Agency requires stratified achievement objectives. The kindergarten objective for the AISD Reading Improvement Program was based on the previous performance by Title I students. Only students tested in English were used to establish and measure the objective. Too few students were both pre- and posttested in Spanish to establish and measure an objective in that language. Figure B-1 shows the number and percentage of Title I students making gains in each interval specified in the objective. It is not clear to the writer exactly how stratified objectives are to be evaluated. It would appear that the program did not do quite as well as expected since the percentages in the bottom three ranges of gain are greater than expected while the percentages in the top two ranges are smaller than anticipated. An examination of the mean gain, however, shows that the program did about as well this year as last. The average gain for students tested in English in 1979-80 was 14.5 raw score points. The average gain this year was .6 points lower, 13.9 raw score points.*

Evaluation Question D1-7: Were the objectives of the schoolwide projects met?

Figures B-3 and B-4 provide the results for the students tested in English at Allison and Becker. The results were very similar for the two groups. The students in the two schools had the same pretest mean and were within .2 raw score points of each other at posttest. A comparison of the gains made by these students to those made by other Title I students follows.

Evaluation Question D2-2: Were the achievement gains made by low-achieving students (40th percentile or below) in the schoolwide projects equal to the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: Were the achievement gains made by high-achieving students (above the 40th percentile) in the schoolwide projects equal to the gains made by high-achieving students in regular Title I schools?

A number of analyses were done to provide information about these evaluation questions. Attachment B-1 describes the type of linear models used to make the comparisons between groups. The same models were used in each analysis reported below. In each case the pretest was the fall Boehm raw score, and the posttest was the spring Boehm score. Only the makeup of the groups differed from analysis to analysis.

*See addendum.

The first set of analyses compared low-achieving students (pretest $\leq$ 40th percentile) at Allison with similar students at Becker. The results in Figure B-5 show that the two groups did not differ significantly.

Figure B-6 reports the results when the high-achieving students (pretest > 40th percentile) at the same schools were compared. Again the groups were not found to differ significantly.

Then all kindergarten students at Allison who were tested in English were compared with their counterparts at Becker, and the results were the same. None of the F-tests were significant.

When the kindergarten students at the two schoolwide projects were not found to differ significantly, they were combined for comparisons with students from the other Title I schools. The comparisons were limited to students in schools that had been part of the Title I Program in previous years so that students of relatively similar socioeconomic backgrounds were used in the comparisons. The schools comprising the comparison group were the following: Brown, Blackshear, Campbell, Dawson, Govalle, Maplewood, Mathews, Metz, Norman, Oak Springs, Ortega, Ridgetop, Rosedale, Sanchez, Sims, and Zavala. First, low achievers in the two groups were compared. Then high achievers and all students were compared.

Figures B-8 through B-10 reveal that the two groups differed significantly in each set of analyses. An examination of expected values for the two groups when all students in each group were included in the analysis shows about a 3 point advantage on the posttest for schoolwide project students compared to students from regular Title I schools with equivalent pretest scores. At the pretest mean of schoolwide project participants, this gain represents a gain of about eight NCE's.

Copies of the computer printouts from which Figures B-5 through B-10 were taken can be found as Attachments B-2 through B-7.

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of nonparticipants in the control group?

The Rainbow Kits are collections of 36 reading-related activities for parents and children. The activities, which were developed on four levels--kindergarten, first grade, primary (grades 2 and 3) and intermediate (grades 4-6)--are packaged in envelopes and designed to be sent home with the Title I children on a weekly basis throughout the school year.

The Rainbow Kits were pilot tested in six Title I schools. Grade levels at each school were assigned to either participation or control status. All students in a participating grade received Rainbow Kits; Title I students at nonparticipating grades did not receive the lessons. At kindergarten three schools--Brown, Dawson, and Maplewood--received the kits. The nonparticipating schools were Ridgetop and Zilker. Harris, the sixth school, did not have kindergarten students. The linear models in Attachment B-1 were used to compare the participating Title I students with the controls. Nonparticipating siblings of participants were removed from all Rainbow Kit analyses so the presence of the kits in the home would not confound the results. About one-third of the parents responding to a Rainbow Kit Questionnaire (Appendix H) had reported other children using the Rainbow Kit their child received.

The results presented in Figures B-11 and B-12 would seem to imply that the Rainbow Kits retarded the learning of students with a pretest score below 20; however, only 15 students were included in the control group. Such an N is too small for meaningful analysis especially using models with as many as six predictors.

Evaluation Question D4-3: Did former pre-k participants score higher than other students in their schools when entering kindergarten and first grade?

To answer this question the Boehm scores of two groups of students were compared. One group was 1979-80 Title I pre-k students who entered kindergarten in September, 1980. The other group consisted of all the kindergarten students in the schools which had Title I pre-k classes in 1979-80 except for the former Title I pre-k students and the former Title I Migrant pre-k students who attended those schools. The two groups were compared on the Boehm subscales and total scores. Figure B-13 shows that the former pre-k students scored significantly higher than the others on total score and on all subscales except one, Miscellaneous. The difference between the groups on total score represents about a 15 percentile point difference in the middle SES norms. About half of the former pre-k students were not eligible for Title I instruction.

Evaluation Question D5-3: Did Happy Talk participants outscore the other students in their schools when entering kindergarten?

A different approach was taken in answering this evaluation question. Thirty-six Happy Talk participants from 1979-80 were found to have fall, 1980, Boehm scores. They attended 10 different elementary schools: Allison, Blackshear, Brooke, Brown, Govalle, Metz, Ortega, St. Elmo, Zavala, and Winn. An expected score was first determined by getting a weighted average of the mean Boehm raw scores at these 10 schools. The calculation of the mean for all ten schools was weighted by the number of former Happy Talk students attending the school. The weighted mean was 24.8. A t-test was then calculated to see if the mean of the former Happy Talk students, 22.6, differed significantly from this score. The t of 2.31 was significant at the .05 level, so it appears that the former Happy Talk students scored below the other kindergarten students in the schools they attended.

Addendum

An analysis reported in Appendix G of the Final Technical Report, Systemwide Testing Evaluation, publication number 80.39, shows that when only the nine schools that have been Title I schools for the last four years are included, the gain is the same (12.1 points) as in 1979-80.

Results		Expected	
Number	Percent	Percent	Gain of...
67	16.4	18	≥20 raw score points
138	33.8	37	14-19 raw score points
168	41.2	37	7-13 raw score points
30	7.4	7	1- 6 raw score points
5	1.2	1	≤0 raw score points

Pretest mean score = 21.5

Posttest mean score = 35.4 N = 408

Average gain = 13.9

Figure B-1. MEASUREMENT OF READING COMPONENT OBJECTIVE, 1980-81.

Spring Boehm	1980		1981	
Raw Score	Number	Percent	Number	Percent
≤34	234	38	161	39
>34	382	62	247	61

Figure B-2. NUMBER AND PERCENTAGE OF TITLE I KINDERGARTEN STUDENTS SCORING HIGH ENOUGH TO EXIT TITLE I STATUS.

Results		Expected	
Number	Percent	Percent	Gain of...
17	27.0	16	>20 raw score points
22	34.9	37	14-19 raw score points
18	28.6	24	7-13 raw score points
6	9.5	15	1- 6 raw score points
0	0.0	0	<0 raw score points

Pretest mean score = 24.5

Posttest mean score = 40.2 N = 63

Average gain = 15.7

Figure B-3. MEASUREMENT OF TITLE I SCHOOLWIDE PROJECT OBJECTIVES AT ALLISON.

Results		Expected	
Number	Percent	Percent	Gains of...
21	25.6	11	>20 raw score points
26	31.7	42	14-19 raw score points
32	39.0	35	7-13 raw score points
3	3.7	12	1- 6 raw score points
0	0.0	2	<0 raw score points

Pretest mean score = 24.5

Posttest mean score = 40.0 N = 82

Average gain = 15.5

Figure B-4. MEASUREMENT OF TITLE I SCHOOLWIDE PROJECT OBJECTIVES AT BECKER.

80.71

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.3122	.3121	1,99	0.017	0.891
2	vs	3	.3121	.2939	1,100	2.635	0.104
3	vs	4	.2939	.2828	1,101	1.597	0.207
4	vs	5	.2828	.2799	1,103	0.417	0.527

Figure B-5. MODELS COMPARING LOW ACHIEVERS (≤40th Percentile) AT ALLISON (N=46) AND BECKER (N=59) SCHOOLWIDE PROJECTS.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.2004	.2011	1,34	0.0	1.000
2	vs	3	.2011	.1971	1,35	0.177	0.680
3	vs	4	.1971	.1960	1,36	0.047	0.823
4	vs	5	.1960	.1381	1,37	2.666	0.107

Figure B-6. MODELS COMPARING HIGH ACHIEVERS (>40th Percentile) AT ALLISON (N=17) AND BECKER (N=23) SCHOOLWIDE PROJECTS.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4732	.4726	1,139	0.162	0.690
2	vs	3	.4726	.4637	1,140	2.375	0.122
3	vs	4	.4637	.4513	1,141	3.240	0.070
4	vs	5	.4513	.4512	1,142	0.023	0.874

Figure B-7. MODELS COMPARING ALL STUDENTS AT ALLISON (N=63) AND BECKER (N=82) SCHOOLWIDE PROJECTS.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.3078	.3037	1, 594	3.506	0.058
2	vs	3	.3037	.3037	1, 595	0.0	1.000
3	vs	4	.3037	.3037	1, 596	0.0	1.000
4	vs	5	.3037	.2715	1, 597	27.757	<0.0001

Figure B-8. MODELS COMPARING LOW ACHIEVERS (≤40th Percentile) AT ALLISON AND BECKER (N=105) WITH LOW ACHIEVERS AT TRADITIONAL TITLE I SCHOOLS (N=495). See text for a list of schools.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.2485	.2485	1, 307	0.0	1.000
2	vs	3	.2485	.2490	1, 308	0.0	1.000
3	vs	4	.2490	.2494	1, 309	0.0	1.000
4	vs	5	.2494	.1966	1, 310	21.829	<0.0001

Figure B-9. MODELS COMPARING HIGH-ACHIEVING (>40th Percentile) SCHOOLWIDE PROJECT STUDENTS (N=40) WITH HIGH ACHIEVERS AT TRADITIONAL TITLE I SCHOOLS (N=273).

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5202	.5196	1, 907	1.081	0.299
2	vs	3	.5196	.5169	1, 908	5.182	0.022
3	vs	4	.5169	.5169	1, 909	0.0	1.000
4	vs	5	.5169	.4922	1, 911	46.619	<0.0001

Figure B-10. MODELS COMPARING ALL SCHOOLWIDE PROJECT STUDENTS (N=145) WITH ALL STUDENTS IN TRADITIONAL TITLE I SCHOOLS (N=768).

80.71

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4397	.4209	1,71	2.382	.123
2	vs	3	.4209	.3799	1,72	5.094	.025
3	vs	4	.3799	.3581	1,73	2.572	.109
4	vs	5	.3581	.3532	1,74	0.558	.464

Figure B-11. COMPARISON OF RAINBOW KIT PARTICIPANTS AND NONPARTICIPATING TITLE I STUDENTS. Nonparticipating siblings of Rainbow Kit recipients were excluded from the analysis.

80.71

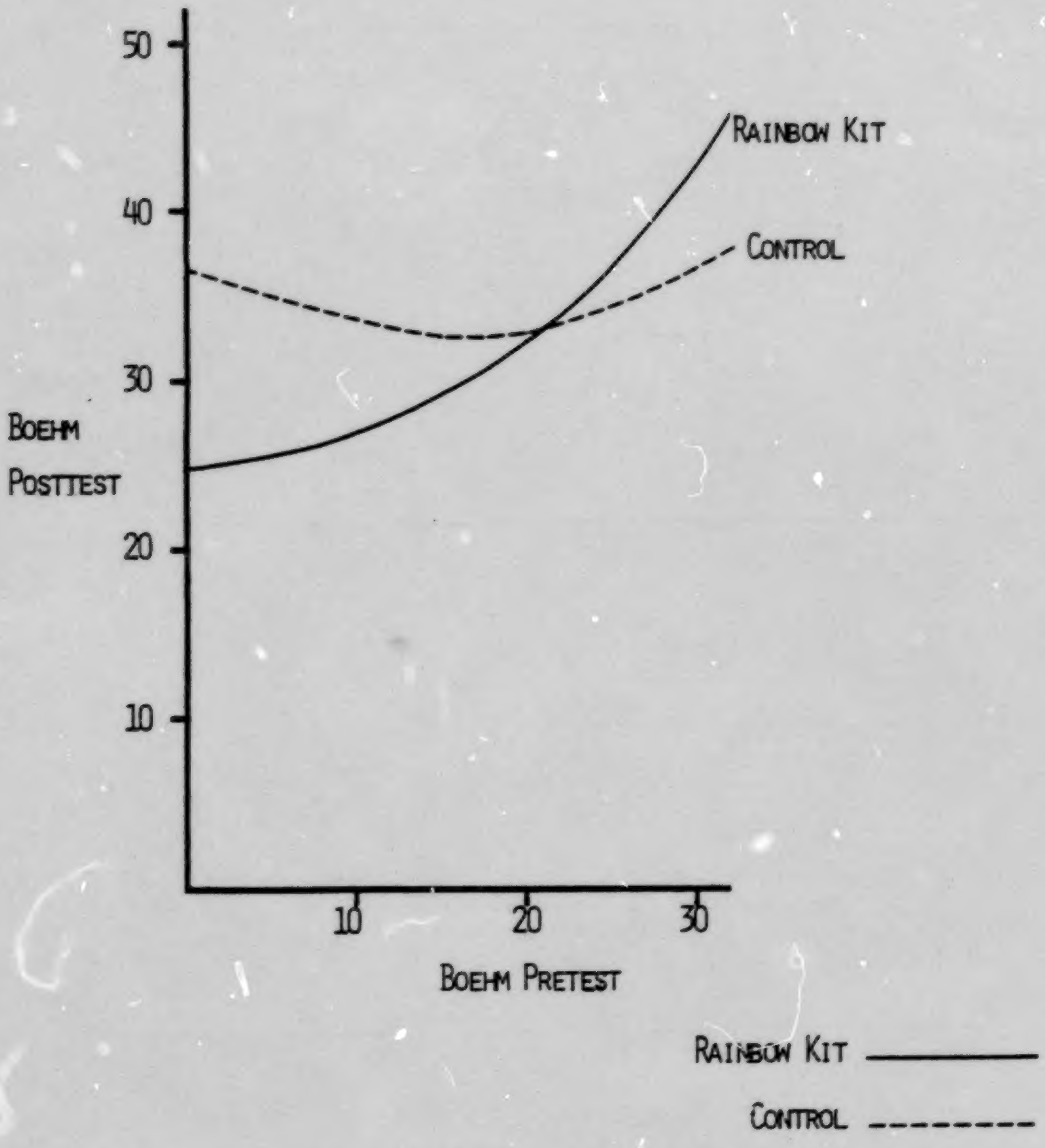

Figure B-12. COMPARISON OF RAINBOW KIT PARTICIPANTS AND CONTROL STUDENTS.

Variable	Title I Pre-k*		No Pre-k*		df	F	p
	N	Mean	N	Mean			
Space (23)**	86	15.86	211	13.72	1, 295	14.985	.0003
Quantity (18)	86	10.23	211	8.94	1, 295	11.506	.0012
Time (4)	86	2.23	211	1.73	1, 295	11.956	.0010
Misc. (5)	86	2.42	211	2.54	1, 295	2.536	.1083
Total (50)	86	30.74	211	26.53	1, 295	15.405	.0003

*See the text for the definitions of each group.
**Numbers in parentheses give the number of items included in the scale.

Figure B-13. COMPARISON OF FORMER TITLE I PRE-K STUDENTS AND NONPARTICIPANTS AT ENTRY INTO KINDERGARTEN.

PROTOTYPIC MODELS FOR COMPARING GROUP GAINS

Model 1: $Y = a_0U + a_1X^{(3)} + a_3X^{(4)} + a_4X^{(6)} + a_5X^{(7)} + a_6X^{(8)} + E$

Model 2: $Y = a_7U + a_8X^{(3)} + a_9X^{(4)} + a_{10}X^{(5)} + a_{11}X^{(8)} + E$

Model 3: $Y = a_{12}U + a_{13}X^{(3)} + a_{14}X^{(4)} + a_{15}X^{(8)} + E$

Model 4: $Y = a_{16}U + a_{17}X^{(2)} + a_{18}X^{(8)} + E$

Model 5: $Y = a_{19}U + a_{20}X^{(2)} + E$

Where,

Y = posttest

U = unit vector

$X^{(2)}$ = pretest

$X^{(3)}$ = pretest if a member of Group 1; 0, otherwise

$X^{(4)}$ = pretest if a member of Group 2; 0 otherwise

$X^{(5)} = X^{(2)}$ squared

$X^{(6)} = X^{(3)}$ squared

$X^{(7)} = X^{(4)}$ squared

$X^{(8)}$ = 1 if a member of Group 1; 0, otherwise

80.71

```
     *** OUTPUT FROM PROGRAM REGRAN ***

ALLISON VS BECKER -- BOEHM 1980-1981 -- RAW SCORES <= 30

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    105
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                   0870


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
             37.9143    20.6381     9.0667    11.5714   459.9143   200.3810   259.5333     0.4381


SIGMAS             1          2          3          4          5          6          7          8
              6.8704     5.8295    10.8709    11.2087   228.7165   267.2546   291.3714     0.4962


R MATRIX           1          2          3          4          5          6          7          8

        1     1.0000     0.5290     0.1340     0.1452     0.4951     0.1725     0.2304     0.0585

        2     0.5290     1.0000     0.2093     0.3171     0.9842     0.3263     0.4733     0.0087

        3     0.1340     0.2093     1.0000    -0.8610     0.1906     0.9731    -0.7429     0.9446

        4     0.1452     0.3171    -0.8610     1.0000     0.3270    -0.7740     0.9667    -0.9116

        5     0.4951     0.9842     0.1906     0.3270     1.0000     0.3177     0.4936    -0.0097

        6     0.1725     0.3263     0.9731    -0.7740     0.3177     1.0000    -0.6678     0.8491

        7     0.2304     0.4733    -0.7429     0.9667     0.4936    -0.6678     1.0000    -0.7865

        8     0.0585     0.0087     0.9446    -0.9116    -0.0097     0.8491    -0.7865     1.0000
```

Attachment B-2
(Page 1 of 3)

```
MODEL   1 M1   CRITERICN =  1

PREDICTORS =   3- 4   6- 8

R = 0.5587        RSQ = 0.3122          450 ITERATIONS.

  V        BETA          B
  3      2.2334      1.4115
  4      2.6655      1.6338
  6     -0.9301     -0.0239
  7     -1.0200     -0.0241
  8      0.3663      5.0728
REG. CONST. =       15.0222


MODEL   2 M2   CRITERION =  1

PREDICTORS =   3- 5   8- 8

R = 0.5586        RSQ = 0.3121          179 ITERATIONS.

  V        BETA          B
  3      2.0232      1.2786
  4      2.5320      1.5520
  5     -0.7127     -0.0214
  8      0.4486      6.2117
REG. CONST. =       15.4876


MODEL   3 M3   CRITERICN =  1

PREDICTORS =   3- 4   8- 8

R = 0.5422        RSQ = 0.2939           57 ITERATIONS.

  V        BETA          B
  3      0.7580      0.4790
  4      1.1628      0.7127
  8      0.4025      5.5731
REG. CONST. =       22.8823


MODEL   4 M4   CRITERICN =  1

PREDICTORS =   2- 2   8- 8

R = 0.5318        RSQ = 0.2828            2 ITERATIONS.

  V        BETA          B
  2      0.5286      0.6229
  8      0.0539      0.7464
REG. CONST. =       24.7312
```

```
MODEL   5 M5  CRITERION =   1

PREDICTORS =   2- 2

R = 0.5290      RSQ = 0.2799          1 ITERATIONS.

  V       BETA         B
  2    0.5290     0.6235
REG. CONST. =   25.0468


F-TEST  1   MODEL 1 VS MODEL 2                                   0930
RSQ FULL =      0.3122      MODEL  1
RSQ REDUCED = 0.3121      MODEL  2
DIFFERENCE =  0.0001
DFN =  1.       DFD =    99.     F-RATIO =    0.017    P = 0.8908


F-TEST  2   MODEL 2 VS MODEL 3                                   0940
RSQ FULL =      0.3121      MODEL  2
RSQ REDUCED = 0.2939      MODEL  3
DIFFERENCE =  0.0181
DFN =  1.       DFD =  100.     F-RATIO =    2.635    P = 0.1037


F-TEST  3   MODEL 3 VS MODEL 4                                   0950
RSQ FULL =      0.2939      MODEL  3
RSQ REDUCED = 0.2828      MODEL  4
DIFFERENCE =  0.0112
DFN =  1.       DFD =  101.     F-RATIO =    1.597    P = 0.2065


F-TEST  4   MODEL 4 VS MODEL 5                                   0960
RSQ FULL =      0.2828      MODEL  4
RSQ REDUCED = 0.2799      MODEL  5
DIFFERENCE =  0.0029
DFN =  1.       DFD =  102.     F-RATIO =    0.413    P = 0.5289
```

```
*** OUTPUT FROM PROGRAM REGRAN ***

ALLISON VS BECKER -- BOEHM 1980-1981 -- RAW SCORES > 30                                        0850

PARAMETERS
COL  1- 5 =      8
COL  6-10 =     40
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                                     0870


INTERCORRELATION ANALYSIS.


MEANS             1          2          3          4          5          6          7          8
            45.8250    34.7500    14.8000    19.9500  1217.7500   519.5500   698.2000     0.4250


SIGMAS            1          2          3          4          5          6          7          8
             3.0405     3.1918    17.3352    17.3262   228.9991   621.7881   625.5556     0.4943


R MATRIX          1          2          3          4          5          6          7          8

       1     1.0000     0.3716    -0.2065     0.2751     0.3772    -0.1741     0.3112    -0.2333

       2     0.3716     1.0000     0.0949     0.0893     0.9991     0.1695     0.1972     0.0198

       3    -0.2065     0.0949     1.0000    -0.9830     0.0927     0.9928    -0.9529     0.9931

       4     0.2751     0.0893    -0.9830     1.0000     0.0913    -0.9621     0.9897    -0.9899

       5     0.3772     0.9991     0.0927     0.0913     1.0000     0.1676     0.1994     0.0177

       6    -0.1741     0.1695     0.9928    -0.9621     0.1676     1.0000    -0.9326     0.9719

       7     0.3112     0.1972    -0.9529     0.9897     0.1994    -0.9326     1.0000    -0.9596

       8    -0.2333     0.0198     0.9931    -0.9899     0.0177     0.9719    -0.9596     1.0000
```

Attachment B-3
(Page 1 of 3)

```
   80.71
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.4476       RSQ = 0.2004          12 ITERATIONS.

  V        BETA         B
  3     0.0          0.0
  4     0.0          0.0
  6     0.9040       0.0044
  7     1.1341       0.0055
  8    -0.0209      -0.1288
REG. CONST. =    39.7344


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.4485       RSQ = 0.2011           2 ITERATIONS.

  V        BETA         B
  3    -0.2436      -0.0427
  4     0.0          0.0
  5     0.3998       0.0053
  8     0.0          0.0
REG. CONST. =    39.9934


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.4439       RSQ = 0.1971           2 ITERATIONS.

  V        BETA         B
  3     1.9000       0.3332
  4     2.1429       0.3760
  8     0.0          0.0
REG. CONST. =    33.3909


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.4427       RSQ = 0.1960           2 ITERATIONS.

  V        BETA         B
  2     0.3764       0.3585
  8    -0.2407      -1.4806
REG. CONST. =    33.9954
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.3716      RSQ = 0.1381          1 ITERATIONS.

  V      BETA        B
  2    0.3716     0.3540
REG. CONST. =    33.5239


F-TEST  1   MODEL 1 VS MODEL 2                                            0930
RSQ FULL =      0.2004      MODEL  1
RSQ REDUCED = 0.2011        MODEL  2
DIFFERENCE = -0.0007
DFN =  1.       DFD =    34.      F-RATIO =    0.0       P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3                                            0940
RSQ FULL =      0.2011      MODEL  2
RSQ REDUCED = 0.1971        MODEL  3
DIFFERENCE =    0.0040
DFN =  1.       DFD =    35.      F-RATIO =    0.177     P = 0.6800

F-TEST  3   MODEL 3 VS MODEL 4                                            0950
RSQ FULL =      0.1971      MODEL  3
RSQ REDUCED = 0.1960        MODEL  4
DIFFERENCE =    0.0011
DFN =  1.       DFD =    36.      F-RATIO =    0.047     P = 0.8232

F-TEST  4   MODEL 4 VS MODEL 5                                            0960
RSQ FULL =      0.1960      MODEL  4
RSQ REDUCED = 0.1381        MODEL  5
DIFFERENCE =    0.0579
DFN =  1.       DFD =    37.      F-RATIO =    2.666     P = 0.1073
```

80.71

```
*** OUTPUT FROM PROGRAM REGRAN ***

ALLISON VS BECKER -- BOEHM 1980-1981 -- ALL STUDENTS

PARAMETERS
COL   1- 5 =      8
COL   6-10 =    145
CCL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)                                                                 0870


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
           40.0966    24.5310    10.6483    13.8828   668.9724   288.4276   380.5448     0.4345


SIGMAS           1          2          3          4          5          6          7          8
            7.0166     8.1976    13.2303    13.7045   408.7460   422.7588   455.9249     0.4957


R MATRIX         1          2          3          4          5          6          7          8

        1   1.0000     0.6718     0.1433     0.2635     0.6393     0.2167     0.3721     0.0078

        2   0.6718     1.0000     0.2509     0.3559     0.9813     0.3926     0.5157    -0.0025

        3   0.1433     0.2509     1.0000    -0.8153     0.2427     0.9592    -0.6718     0.9182

        4   0.2635     0.3559    -0.8153     1.0000     0.3526    -0.6911     0.9570    -0.8879

        5   0.6393     0.9813     0.2427     0.3526     1.0000     0.3991     0.5265    -0.0110

        6   0.2167     0.3926     0.9592    -0.6911     0.3991     1.0000    -0.5695     0.7784

        7   0.3721     0.5157    -0.6718     0.9570     0.5265    -0.5695     1.0000    -0.7316

        8   0.0078    -0.0025     0.9182    -0.8879    -0.0110     0.7784    -0.7316     1.0000
```

Attachment B-4
(Page 1 of 3)

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6879      RSQ = 0.4732         352 ITERATIONS.

  V       BETA        B
  3     1.6840     0.8931
  4     2.1591     1.1054
  6    -0.5112    -0.0085
  7    -0.6145    -0.0095
  8     0.3269     4.6276
REG. CONST. =     19.2759


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6875      RSQ = 0.4726         129 ITERATIONS.

  V       BETA        B
  3     1.5777     0.8367
  4     2.0217     1.0351
  5    -0.4519    -0.0078
  8     0.3493     4.9439
REG. CONST. =     19.8579


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.6809      RSQ = 0.4637          44 ITERATIONS.

  V       BETA        B
  3     0.8854     0.4696
  4     1.2688     0.6496
  8     0.3184     4.5068
REG. CONST. =     24.1196


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.6718      RSQ = 0.4513           2 ITERATIONS.

  V       BETA        B
  2     0.6718     0.5750
  8     0.0094     0.1334
REG. CONST. =     25.9335
```

```
MODEL  5 *5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6718      RSQ = 0.4512           1 ITERATIONS.

  V      BETA       B
  2    0.6718    0.5750
REG. CONST. =   25.9920

F-TEST  1   MODEL 1 VS MODEL 2                                        0930
RSQ FULL =      0.4732      MODEL  1
RSQ REDUCED = 0.4726      MODEL  2
DIFFERENCE =  0.0006
DFN =  1.      DFD =  139.      F-RATIO =    0.162    P = 0.6903

F-TEST  2   MODEL 2 VS MODEL 3                                        0940
RSQ FULL =      0.4726      MODEL  2
RSQ REDUCED = 0.4637      MODEL  3
DIFFERENCE =  0.0089
DFN =  1.      DFD =  140.      F-RATIO =    2.375    P = 0.1215

F-TEST  3   MODEL 3 VS MODEL 4                                        0950
RSQ FULL =      0.4637      MODEL  3
RSQ REDUCED = 0.4513      MODEL  4
DIFFERENCE =  0.0123
DFN =  1.      DFD =  141.      F-RATIO =    3.240    P = 0.0703

F-TEST  4   MODEL 4 VS MODEL 5                                        0960
RSQ FULL =      0.4513      MODEL  4
RSQ REDUCED = 0.4512      MODEL  5
DIFFERENCE =  0.0001
DFN =  1.      DFD =  142.      F-RATIO =    0.023    P = 0.8743
```

80.71

```
*** OUTPUT FROM PROGRAM REGRAN ***

TITLE I REGULAR VS SCHOOLWIDE PROJECTS -- BOEHM 1980-1981 -- RAW SCORES <= 30

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   600
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                        0540


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
           36.0450    21.7600     3.6117    18.1483   505.6933    80.4850   425.2083     0.1750


SIGMAS           1          2          3          4          5          6          7          8
            6.5432     5.6741     8.2122     9.7901   230.5671   199.2306   286.2065     0.3800


R MATRIX         1          2          3          4          5          6          7          8

      1     1.0000     0.5210     0.1946     0.1387     0.5105     0.2199     0.2582     0.1316

      2     0.5210     1.0000     0.0407     0.5455     0.9838     0.1233     0.7067    -0.0911

      3     0.1946     0.0407     1.0000    -0.8153     0.0340     0.9779    -0.6534     0.9549

      4     0.1387     0.5455    -0.8153     1.0000     0.5417    -0.7489     0.9577    -0.8538

      5     0.5105     0.9838     0.0340     0.5417     1.0000     0.1191     0.7227    -0.0914

      6     0.2199     0.1233     0.9779    -0.7489     0.1191     1.0000    -0.6002     0.8771

      7     0.2582     0.7067    -0.6534     0.9577     0.7227    -0.6002     1.0000    -0.6842

      8     0.1316    -0.0911     0.9549    -0.8538    -0.0914     0.8771    -0.6842     1.0000
```

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.5548      RSQ = 0.3078          245 ITERATIONS.

  V       BETA        B
  3     1.6863      1.3436
  4     0.6318      0.4223
  6    -0.5724     -0.0188
  7     0.2162      0.0049
  8    -0.2892     -4.9806
REG. CONST. =      23.8114


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.5511      RSQ = 0.3037          134 ITERATIONS.

  V       BETA        B
  3     0.7810      0.6222
  4     0.9748      0.6515
  5    -0.0240     -0.0007
  8     0.2186      3.7651
REG. CONST. =      21.6599


MODEL  3 M3  CRITERION = '1

PREDICTORS =  3- 4  8- 8

R = 0.5511      RSQ = 0.3037          38 ITERATIONS.

  V       BETA        B
  3     0.8146      0.6490
  4     0.9184      0.6138
  8     0.1348      2.3219
REG. CONST. =      22.1555


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.5512      RSQ = 0.3038          2 ITERATIONS.

  V       BETA        B
  2     0.5375      0.6198
  8     0.1805      3.1086
REG. CONST. =      22.0144
```

124

```
MODEL  5 IS  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5210      RSQ = 0.2715          1 ITERATIONS.

  V       BETA        B
  2     0.5210     0.6008
REG. CONST. =   22.9710


F-TEST  1   MODEL 1 VS MODEL 2                                              0600
RSQ FULL =      0.3078      MODEL  1
RSQ REDUCED = 0.3037      MODEL  2
DIFFERENCE =  0.0041
DFN =  1.       DFD =  594.     F-RATIO =    3.506    P = 0.0582


F-TEST  2   MODEL 2 VS MODEL 3                                              0610
RSQ FULL =      0.3037      MODEL  2
RSQ REDUCED = 0.3037      MODEL  3
DIFFERENCE =  0.0000
DFN =  1.       DFD =  595.     F-RATIO =    0.042    P = 0.8326


F-TEST  3   MODEL 3 VS MODEL 4                                              0620
RSQ FULL =      0.3037      MODEL  3
RSQ REDUCED = 0.3038      MODEL  4
DIFFERENCE = -0.0001
DFN =  1.       DFD =  596.     F-RATIO =    0.0      P = 1.0000


F-TEST  4   MODEL 4 VS MODEL 5                                              0630
RSQ FULL =      0.3038      MODEL  4
RSQ REDUCED = 0.2715      MODEL  5
DIFFERENCE =  0.0323
DFN =  1.       DFD =  597.     F-RATIO =   27.712    P = 0.0000
```

80.71

```
      *** OUTPUT FROM PROGRAM REGRAN ***

   TITLE I REGULAR VS SCHOOLWIDE PROJECTS -- BOEHM 1980-1981 -- RAW SCORES > 30

   PARAMETERS
   COL  1- 5 =      8
   COL  6-10 =    313
   COL 11-15 =      5
   COL 16-20 =      4
   COL 21-25 =      1

   DATA FORMAT = (DUMMY)                                                                            0540


   INTERCORRELATION ANALYSIS.


   MEANS             1          2          3          4          5          6          7          8
                  44.3259    36.5911     4.4409    32.1502  1356.6166   155.6230  1200.9936     0.1278


   SIGMAS            1          2          3          4          5          6          7          8
                   3.7650     4.2085    11.6577    12.9368   319.1276   414.7205   551.0479     0.3339


   R MATRIX          1          2          3          4          5          6          7          8

          1       1.0000     0.4433     0.1622    -0.0019     0.4426     0.1709     0.1277     0.1524

          2       0.4433     1.0000    -0.1401     0.4516     0.9980    -0.1107     0.6613    -0.1675

          3       0.1622    -0.1401     1.0000    -0.9467    -0.1407     0.9949    -0.8303     0.9952

          4      -0.0019     0.4516    -0.9467     1.0000     0.4514    -0.9326     0.9633    -0.9513

          5       0.4426     0.9980    -0.1407     0.4514     1.0000    -0.1127     0.6639    -0.1666

          6       0.1709    -0.1107     0.9949    -0.9326    -0.1127     1.0000    -0.8178     0.9803

          7       0.1277     0.6613    -0.8303     0.9633     0.6639    -0.8178     1.0000    -0.8343

          8       0.1524    -0.1675     0.9952    -0.9513    -0.1666     0.9803    -0.8343     1.0000
```

Attachment B-6
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```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.4985        RSQ = 0.2485              67 ITERATIONS.

  V        BETA          B
  3      0.0          0.0
  4      0.0          0.0
  6      0.6267       0.0057
  7      0.8311       0.0057
  8      0.2313       2.6087
REG. CONST. =       36.2877


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.4985        RSQ = 0.2485               2 ITERATIONS.

  V        BETA          B
  3      0.0          0.0
  4      0.0          0.0
  5      0.4814       0.0057
  8      0.2326       2.6229
REG. CONST. =       36.2865


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.4990        RSQ = 0.2490              78 ITERATIONS.

  V        BETA          B
  3      1.4086       0.4549
  4      1.4778       0.4301
  8      0.1534       1.7302
REG. CONST. =       28.2570


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.4994        RSQ = 0.2494               2 ITERATIONS.

  V        BETA          B
  2      0.4824       0.4316
  8      0.2332       2.6297
REG. CONST. =       28.1989
```

```
80.71


MODEL   5 M5   CRITERION =   1

PREDICTORS =   2- 2                                     1 ITERATION

R = 0.4433        RSQ = 0.1966

   V        BETA          B
   2      0.4433      0.3966
REG. CONST. =         29.8132


F-TEST   1    MODEL 1 VS MODEL 2
RSQ FULL =        0.2485         MODEL   1
RSQ REDUCED = 0.2485             MODEL   2
DIFFERENCE = -0.0000
DFN =  1.          DFD =   307.        F-RATIC =    0.0


F-TEST   2    MODEL 2 VS MODEL 3
RSQ FULL =        0.2485         MODEL   2
RSQ REDUCED = 0.2490             MODEL   3
DIFFERENCE = -0.0005
DFN =  1.          DFD =   308.        F-RATIO =    0.0


F-TEST   3    MODEL 3 VS MODEL 4
RSQ FULL =        0.2490         MODEL   3
RSQ REDUCED = 0.2494             MODEL   4
DIFFERENCE = -0.0004
DFN =  1.          DFD =   309.        F-RATIC =    0.


F-TEST   4    MODEL 4 VS MODEL 5
RSQ FULL =        0.2494         MODEL   4
RSQ REDUCED = 0.1966             MODEL   5
DIFFERENCE =  0.0529
DFN =  1.          DFD =   310.        F-RATIC =   21
```

80.71

```
     *** OUTPUT FROM PROGRAM REGRAN ***

  TITLE I REGULAR VS SCHOOLWIDE PROJECTS -- BOEHM 1980-1981 -- ALL STUDENTS

  PARAMETERS
  COL  1- 5 =      8
  COL  6-10 =    913
  COL 11-15 =      5
  COL 16-20 =      4
  COL 21-25 =      1

  DATA FORMAT = (DUMMY)                                                                 0540


  INTERCORRELATION ANALYSIS.


  MEANS           1          2          3          4          5          6          7          8
            38.8839    26.8445     3.8959    22.9485   797.4118   106.2442   691.1676     0.1588


  SIGMAS          1          2          3          4          5          6          7          8
             6.9602     8.7628     9.5426    12.8270   482.6808   293.8039   541.7796     0.3655


  R MATRIX        1          2          3          4          5          6          7          8

        1    1.0000     0.7016     0.1635     0.3576     0.6775     0.2054     0.4922     0.0757

        2    0.7016     1.0000     0.0198     0.6684     0.9808     0.1074     0.8156    -0.1147

        3    0.1635     0.0198     1.0000    -0.7304     0.0047     0.9682    -0.5208     0.9396

        4    0.3576     0.6684    -0.7304     1.0000     0.6665    -0.6470     0.9447    -0.7774

        5    0.6775     0.9808     0.0047     0.6665     1.0000     0.0909     0.8416    -0.1156

        6    0.2054     0.1074     0.9682    -0.6470     0.0909     1.0000    -0.4613     0.8322

        7    0.4922     0.8156    -0.5208     0.9447     0.8416    -0.4613     1.0000    -0.5543

        8    0.0757    -0.1147     0.9396    -0.7774    -0.1156     0.8322    -0.5543     1.0000
```

Attachment B-7
(Page 1 of 3)

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.7212      RSQ = 0.5202         117 ITERATIONS.

  V      BETA        B
  3     1.4636     1.0675
  4     1.2757     0.6922
  6    -0.4224    -0.0100
  7    -0.1721    -0.0022
  8    -0.0521    -0.9923
REG. CONST. =     21.5884


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.7208      RSQ = 0.5196          56 ITERATIONS.

  V      BETA        B
  3     1.0813     0.7886
  4     1.4382     0.7804
  5    -0.2695    -0.0039
  8     0.1452     2.7654
REG. CONST. =     20.5618


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.7189      RSQ = 0.5169          32 ITERATIONS.

  V      BETA        B
  3     0.3127     0.5927
  4     1.0475     0.5684
  8     0.1234     2.3503
REG. CONST. =     23.1575


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.7190      RSQ = 0.5169           2 ITERATIONS.

  V      BETA        B
  2     0.7197     0.5717
  8     0.1583     3.0139
REG. CONST. =     23.0587
```

```
MODEL   5 M5   CRITERION =  1

PREDICTORS =   2- 2

R = 0.7016      RSQ = 0.4922            1 ITERATIONS.

  V       BETA       B
  2     0.7016     0.5573
REG. CONST. =    23.9244


F-TEST  1    MODEL 1 VS MODEL 2
RSQ FULL =       0.5202       MODEL  1
RSQ REDUCED = 0.5196       MODEL  2
DIFFERENCE =  0.0006
DFN =  1.       DFD =  907.      F-RATIO =    1.081     P = 0.2990


F-TEST  2    MODEL 2 VS MODEL 3
RSQ FULL =       0.5196       MODEL  2
RSQ REDUCED = 0.5169       MODEL  3
DIFFERENCE =  0.0027
DFN =  1.       DFD =  908.      F-RATIC =    5.163     P = 0.0217


F-TEST  3    MODEL 3 VS MODEL 4
RSQ FULL =       0.5169       MODEL  3
RSQ REDUCED = 0.5169       MODEL  4
DIFFERENCE = -0.0001
DFN =  1.       DFD =  909.      F-RATIC =    0.0       P = 1.0000


F-TEST  4    MODEL 4 VS MODEL 5
RSQ FULL =       0.5169       MODEL  4
RSQ REDUCED = 0.4922       MODEL  5
DIFFERENCE =  0.0247
DFN =  1.       DFD =  910.      F-RATIC =   46.567     P = 0.0000
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

  ANALYSIS 4 -- RAINBOW KIT -- KINDERGARTEN

  PARAMETERS
  COL  1- 5 =      8
  COL  6-10 =     77
  COL 11-15 =      5
  COL 16-20 =      4
  COL 21-25 =      1

  DATA FORMAT = (DUMMY)                                                                          0850


  INTERCORRELATION ANALYSIS.


  MEANS             1          2          3          4          5          6          7          8
              34.9610    22.6753    18.4675     4.2078   538.3636   444.5455    93.8182     0.8052


  SIGMAS            1          2          3          4          5          6          7          8
               5.2778     4.9187    10.1733     8.7243   196.1068   283.2389   204.0746     0.3961


  R MATRIX          1          2          3          4          5          6          7          8

          1    1.0000     0.5943     0.3883    -0.1177     0.6228     0.4993    -0.0945     0.1331

          2    0.5943     1.0000     0.5154    -0.0372     0.9672     0.6535     0.0224     0.1075

          3    0.3883     0.5154     1.0000    -0.8755     0.5255     0.9651    -0.8345     0.8929

          4   -0.1177    -0.0372    -0.8755     1.0000    -0.0675    -0.7570     0.9858    -0.9806

          5    0.6228     0.9672     0.5255    -0.0675     1.0000     0.6935    -0.0015     0.1424

          6    0.4993     0.6535     0.9651    -0.7570     0.6935     1.0000    -0.7215     0.7720

          7   -0.0945     0.0224    -0.8345     0.9858    -0.0015    -0.7215     1.0000    -0.9346

          8    0.1331     0.1075     0.8929    -0.9806     0.1424     0.7720    -0.9346     1.0000
```

Attachment B-8
(Page 1 of 3)

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4   6- 8

R = 0.6631       RSQ = 0.4397          946 ITERATIONS.

  V       BETA          B
  3    -0.1877    -0.0974
  4    -6.5505    -3.9628
  6     1.1147     0.0208
  7     3.8220     0.0988
  8    -3.4109   -45.4537
REG. CONST. =     71.5251


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5   8- 8

R = 0.6488       RSQ = 0.4209           29 ITERATIONS.

  V       BETA          B
  3    -0.1186    -0.0615
  4    -1.0602    -0.6414
  5     0.7437     0.0200
  8    -0.9096   -12.1213
REG. CONST. =     37.7803


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4   8- 8

R = 0.6164       RSQ = 0.3799           72 ITERATIONS.

  V       BETA          B
  3     1.3321     0.6911
  4     0.2519     0.1524
  8    -0.8094   -10.7858
REG. CONST. =     30.2419


MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2   8- 8

R = 0.5984       RSQ = 0.3581            2 ITERATIONS.

  V       BETA          B
  2     0.5868     0.6297
  8     0.0700     0.9322
REG. CONST. =     19.9326
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2= 2

R = 0.5943      RSQ = 0.3532          1 ITERATICNS.

  V      BETA        B
  2     0.5943     0.6377
REG. CONST. =    20.5002


F=TEST  1   MODEL 1 VS MODEL 2                                           0910
RSQ FULL =      0.4397      MODEL  1
RSQ REDUCED = 0.4209      MODEL  2
DIFFERENCE =  0.0188
DFN =  1.       DFD =     71.      F=RATIO =     2.382    P = 0.1233

F=TEST  2   MODEL 2 VS MODEL 3                                           0920
RSQ FULL =      0.4209      MODEL  2
RSQ REDUCED = 0.3799      MODEL  3
DIFFERENCE =  0.0410
DFN =  1.       DFD =     72.      F=RATIO =     5.094    P = 0.0254

F=TEST  3   MODEL 3 VS MODEL 4                                           0930
RSQ FULL =      0.3799      MODEL  3
RSQ REDUCED = 0.3581      MODEL  4
DIFFERENCE =  0.0218
DFN =  1.       DFD =     73.      F=RATIO =     2.572    P = 0.1091

F=TEST  4   MODEL 4 VS MODEL 5                                           0940
RSQ FULL =      0.3581      MODEL  4
RSQ REDUCED = 0.3532      MODEL  5
DIFFERENCE =  0.0048
DFN =  1.       DFD =     74.      F=RATIO =     0.558    P = 0.4642
```

ESEA Title I

Appendix C

METROPOLITAN READINESS TESTS

Instrument Description: Metropolitan Readiness Tests (MRT)

Brief description of the instrument:

Eight tests that measure the skills needed in beginning reading and mathematics. These tests can be grouped into the following skills areas: auditory, visual, language, and quantitative. The battery composite contains a total of 97 items.

To whom was the instrument administered?

All first-grade students.

How many times was the instrument administered?

Once, to all first-grade students.

When was the instrument administered?

September 8 - 12, 1980. Make-up tests were administered the following week.

Where was the instrument administered?

In the classroom.

Who administered the instrument?

The classroom teacher.

What training did the administrators have?

Written instructions from ORE were provided to the counselor and principal. Any teacher inservice training that occurred was the responsibility of the counselor or principal on each campus.

Was the instrument administered under standardized conditions?

Standardized instructions were distributed. Individual variations in administration procedures may have occurred.

Were there problems with the instrument or the administration that might affect the validity of the data?

No known problems.

Who developed the instrument?

The 1933 version was developed by Dr. Gertrude H. Hildreth; the 1976 version was written by Joanne R. Nurss and Mary E. McGauvran.

What reliability and validity data are available on the instrument?

Reliability and validity data are available in the Teacher's Manual, Part II on pp. 24-25. The reliability of the Form P subtests, as summarized by Kuder-Richardson Formula 20 coefficients and split-half correlations, range from .72 to .95.

Are there norm data available for interpreting the results?

The standardizing sample of 18,002 first graders was chosen to represent a variety of geographic regions, community sizes, and socio-economic levels, from 17 school districts. The norming study, completed in fall, 1974, was fairly representative.

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METROPOLITAN READINESS TESTS

Purpose

Results of the Metropolitan Readiness Tests (MRT) were used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1980-81.

Decision Question D1: Should the Title I Reading Improvement Program be modified? If so, how?

Evaluation Question D1-10: Did 1980 At-Home Summer Program participants show larger achievement gains from April, 1980, to April, 1981, or from October, 1980, to April, 1981, than the matched comparison groups?

Decision Question D2: Should Title I schoolwide projects be continued, expanded, or revised? If so, how?

Evaluation Question D2-2: Were the achievement gains made by low-achieving students (40th percentile or below) in the schoolwide projects equal to the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: Were the achievement gains made by high-achieving students (above 40th percentile) in the schoolwide projects equal to the gains made by high-achieving students in regular Title I schools?

Decision Question D4: Should the Title I Early Childhood Education Program be continued, modified, or discontinued? If so, how?

Evaluation Question D4-3: Did former pre-k participants score higher than other students in their schools when entering kindergarten and first grade?

The information gathered was used in partial fulfillment of Information Needs I2, I3, and I4 for the 1981-1982 Needs Assessment.

I2: How similar are the results when the schools are ranked for Title I eligibility in each way possible under the Title I regulations?

I3: How many students in each school scored below selected percentile points on the Boehm, MRT, and ITBS?

I4: How many students would be eligible for Title I services for various combinations of criteria for campus and student eligibility?

Procedure

The Metropolitan Readiness Test was administered by all AISD first-grade teachers to their classes on September 8-12. Make-up tests were given the following week. Teachers scored the MRT and forwarded the results to ORE. The Final Technical Report, Systemwide Evaluation, publication number 80.39, contains the details of the scoring and processing of the MRT.

Results

All evaluation findings for Evaluation Questions D1-10, D2-2, and D2-3 are reported in other appendices of this report. Information Needs I2, I3, and I4 are reported in the Needs Assessment, publication number 80.87.

Evaluation Question D4-3: Did former pre-k participants score higher than other students in their schools when entering kindergarten and first grade?

The answer to the first part of this question was presented in Appendix B, the Boehm appendix. To provide information about the second part of this question, the MRT scores of 68 students who had been in the pre-k program in 1978-79 were identified. These scores were compared to those of 168 first graders who attended kindergarten in the same schools in which the former early childhood students attended pre-k. These students were used because they should provide a group similar in socioeconomic status to the former pre-k students. The pre-reading composite raw scores of these two groups were compared using Program ANOVAR of the EDSTAT package. The results presented in Figure C-1 show the two groups did not differ on their MRT scores when entering first grade.

The 1980-81 evaluation of the Title I Program compared the entering kindergarten scores of these same two groups. The former pre-k students were found to enter kindergarten with substantially higher test scores.

Figure C-2 compares the scores of the two groups at kindergarten and first grade. A great deal of caution must be used in interpreting the graph in Figure C-2 because of the difference in the tests used to get the scores. The Boehm norms are much older than those of the MRT, and the two tests do not necessarily measure the same dimensions. The value of the figure is that it graphically represents the closing of the gap between the two group means during the kindergarten year. The graph suggests that the closing of the gap is made partly at the expense of the former pre-k students; i.e., the kindergarten teachers do not respond to the initial advantage of the pre-k students in ways that maintain their relatively higher achievement level throughout the year. Whether this suggestion is correct is a question worthy of investigation in subsequent evaluations.

Group	N	Mean	df	F	p
Former Pre-k	68	41.69	1, 205	0.399	0.5353
Comparison Group	139	40.45			

Figure C-1. COMPARISON OF SEPTEMBER, 1981, MRT PRE-READING COMPOSITE SCORES OF FORMER TITLE I PRE-K STUDENTS AND A COMPARISON GROUP.

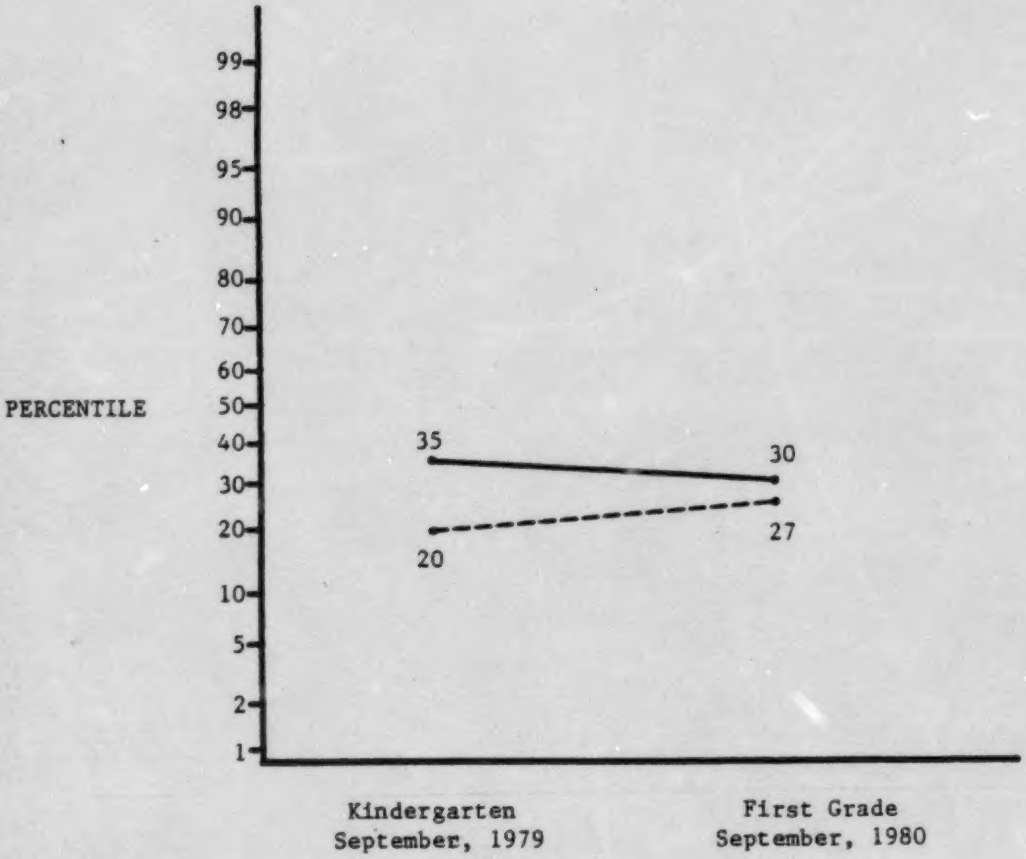

Figure C-2. CHANGES IN PERCENTILE RANKS OF FORMER TITLE I PRE-K STUDENTS AND A COMPARISON GROUP OF NONPARTICIPANTS FROM SEPTEMBER, 1979 TO SEPTEMBER, 1980.

Attachment C-1

```
*** OUTPUT FROM PROGRAM ANOVAR ***

FOLLOW-UP OF FIRST TITLE I PRE-K GROUP 1979 -- MRT 9/80

PARAMETERS
CCL  1- 5 =     1
CCL  6-10 =     2
CCL 11-15 =     1
CCL 16-20 =     0
CCL 21-25 =     0

DATA FORMAT = (DUMMY)

GROUP 1    68 SUBJECTS.  TITLE I PRE-K STUDENTS FROM 1978-79

GROUP 2   139 SUBJECTS.  CONTROL GROUP -- FIRST GRADE 80-81


ANALYSIS FOR VARIABLE  1

SOURCE     MEAN SQUARE     D.F.     F-RATIO        P

TCTAL         176.6876     206.

 GROUPS        70.7921       1.       0.399      0.5353

 ERROR (G)    177.2042     205.

G MEAN            1          2
              41.6912    40.4460
```

COMPARISON OF SEPTEMBER, 1980 MRT SCORES FOR TITLE I PRE-K STUDENTS FROM 1978-75 WITH THOSE OF A COMPARISON GROUP.

ESEA Title I

Appendix D

IOWA TESTS OF BASIC SKILLS

Brief description of the instrument:

Levels 7 and 8 were given to grades 1 and 2, respectively, to measure skills in the areas of Word Analysis, Vocabulary, Reading Comprehension, Spelling, Math Concepts, Math Problems, and Math Computation. ITBS levels 9-14 were administered to grades 3-8 with the test level for students in grades 4-6 chosen on the basis of their previous achievement scores (with teacher review). Levels 9-14 include subtests in all the areas mentioned for levels 7 and 8, except for Word Analysis. In addition, levels 9-14 include subtests measuring Capitalization, Punctuation, Usage, Visual Materials, and Reference Materials.

To whom was the instrument administered?

All elementary and junior high students, grades 1-8. Special education students were exempted as per Board Policy 5127 and its supporting administrative regulation. Students of limited English proficiency (LEP) were not exempt, but could be excused after one test on which they could not function validly. Scores for students who were monolingual or dominant in a language other than English were not included in the school or District summaries.

How many times was the instrument administered?

Once to each student.

When was the instrument administered?

The elementary schools administered the test April 28, 29, and 30, 1981. The dates for the junior high administration were February 17, 18, and 19. Tests were administered in the morning. Make-ups were administered the week after the regular testing.

Where was the instrument administered?

In each AISD elementary and junior high school, usually in the student's regular classroom.

Who administered the instrument?

Classroom teachers in the elementary schools. In the junior high schools, the counselor or principal administered the tests over the public address system using taped directions provided by ORE. Teachers acted as test monitors in their classrooms at these schools.

What training did the administrators have?

Building Test Coordinators participated in planning sessions prior to the testing. Teacher training was the responsibility of the Building Test Coordinator. However, teacher inservice training was available from ORE upon request. Teachers and counselors received written instructions from ORE, including a checklist of procedures and a script to follow in test administration.

Was the instrument administered under standardized conditions?

Yes. Standardized instructions were distributed. ORE personnel monitored in a random selection of classrooms with results indicating that testing conditions were reasonably consistent across the District.

Were there problems with the instrument or the administration that might affect the validity of the data?

No known problems with the instrument. Problems in the administration are documented in the monitors' reports which are available at ORE.

Who developed the instrument?

The University of Iowa. The ITBS is published by the Riverside Publishing Company (Houghton Mifflin Company).

What reliability and validity data are available on the instrument?

The reliability of the subtests, as summarized by Kuder-Richardson Formula 20 coefficient, ranges from .30 to .98, across subtests and levels. The issues of content and construct validity are addressed in the publisher's preliminary technical summary, pp. 13-15.

Are there norm data available for interpreting the results?

Norm data are available in the Teacher's Guide. The Teacher's Guide provides empirical norms (grade equivalent, percentile, stanine) for the fall and spring. Interpolated norms are available for midyear. National, large city, and school building norms are available.

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IOWA TEST OF BASIC SKILLS

Purpose

Results of the Iowa Test of Basic Skills were used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1980-81.

Decision Question D1: Should the Title I Reading Improvement Program be modified? If so, how?

Evaluation D1-1: Were the objectives of the Title I reading component met?

Evaluation Question D1-6: How did the achievement of Title I students compare with that of a comparable group of formerly Title I students in schools without Title I?

Evaluation Question D1-7: How many Title I students scored high enough to exit from the Title I program during 1979-1980?

Evaluation Question D1-8: Was there a relationship between characteristics (cooperation in setting up the program, etc.) of the principals of Title I schools, as perceived by Title I reading coordinators, and the effectiveness of their Title I programs in terms of achievement gains?

Evaluation Question D1-10: Did 1980 At-Home Summer Program participants show larger achievement gains from April, 1980, to April, 1981, or October, 1980, to April, 1981, than the matched comparison groups?

Decision Question D2: Should Title I schoolwide projects be continued, expanded, or revised? If so, how?

Evaluation Question D2-1: Were the objectives of the schoolwide projects met?

Evaluation Question D2-2: Were the achievement gains made by low-achieving students (40th percentile or below) in the schoolwide projects equal to the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: Were the achievement gains made by high-achieving students (above 40th percentile) in the schoolwide projects equal to the gains made by high-achieving students in regular Title I schools?

Decision Question D3: Should the Rainbow Kit project be continued, modified, or discontinued?

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of non-participants in the control group?

The information gathered was used in partial fulfillment of Information Needs I2, I3, and I4 for the 1981-1982 Needs Assessment and Information Needs I20, I21, and I22 for the TEA Annual Evaluation Report.

I2: How similar are the results when the schools are ranked for Title I eligibility in each way possible under the Title I regulations?

I3: How many students in each school scored below selected percentile points on the Boehm, MRT, and ITBS?

I4: How many students would be eligible for Title I services for various combinations of criteria for campus and student eligibility?

I20: Using a Model C evaluation model, what NCE gain was made by Title I students at grades 2-6?

I21: What were the correlations between the pretest and posttest at grades 2-6 for Title I and comparison students? ... the standard deviations?

I22: How many Title I students scored at or below the chance level on the pretest and posttest?

Procedures

Procedures for the administration of the ITBS for 1980-81 can be found in the Final Technical Report, Systemwide Testing, Publication Number 80.39.

Because so many analyses were done using the ITBS, procedures are reported briefly along with the results related to each evaluation question or information need.

Results

The ITBS results are presented below by evaluation question and information need.

Evaluation Question D1-1: Were the objectives of the Title I reading component met?

Figures D-1 through D-6 compare the projected performance of the Title students with their actual gains. The evaluation of stratified objectives is somewhat ambiguous; however, it appears that achievement was higher than expected at all grades except at grade one where the achievement was essentially the same as projected.

Evaluation Question D1-6: How did the achievement of Title I students compare with that of a comparable group of formerly Title I students in schools without Title I?

The fact that many students from traditional Title I attendance areas were assigned to non-Title I schools by the District's desegregation plan provided a unique opportunity for Title I Evaluation to assess the impact of the Title I Program by comparing the gains of Title I students from traditional Title I attendance areas with those of the former Title I students who were not served by a compensatory program. The two groups of students were compared at grades 1-6 using the linear models described in Attachment D-1. Title I students were group 1 in the models. The results are presented in Figures D-7 through D-12 and in Attachment D-2. They show that the Title I students scored significantly higher than the former Title I students at grades 4 and 5. The former Title I students gained more at grade 1, and there was no difference at grades 2 and 3.

Evaluation Question D1-7: How many Title I students scored high enough to exit from the Title I Program during 1979-80?

Figure D-13 shows that from five to thirty-three percent of the Title I students scored high enough to exit in April, 1980, depending on the grade.

Evaluation Question D1-8: Was there a relationship between characteristics (cooperation in setting up the program, etc.) of the principals of Title I schools, as perceived by Title I reading coordinators, and the effectiveness of their Title I programs in terms of achievement gains?

A single rating of the overall support provided by Title I principals was obtained from Title I reading coordinators (see Attachment D-3). Attachment D-4 describes the linear models used to analyze the data, and Figures D-14 through D-20 and Attachment D-5 report the results. The only finding of interest was at grade 3 where the analyses revealed an interaction between ratings and achievement at grade 3. For a given pretest score, students generally scored higher on the posttest if their principals received a low rating from the coordinators. The opposite was true, however, for the lowest scoring students.

Evaluation Question D1-10: Did 1980 At-Home Summer Program participants show larger achievement gains from April, 1980, to April, 1981, than the matched comparison groups?

Figures D-21 through D-26 and Attachment D-6 report the findings for this question. The data were analyzed using the models in Attachment D-1, where group 1 was At-Home participants.

Evaluation Question D2-1: Were the objectives of the schoolwide projects met?

Yes, they were generally exceeded. Figures D-27 through D-35 display the results for the schoolwide projects.

Evaluation Question D2-2: Were the achievement gains made by low-achieving students (40th percentile or below) in the schoolwide projects equal to the gains made by low-achieving students in regular Title I schools?

Analyses were done to answer this question using the linear models in Attachment D-7. The groups indicated in the models were as described below.

Group 1: low-achieving students at Allison.
Group 2: low-achieving students at Becker.
Group 3: students served by Title I who live in a traditional Title I attendance area.
Group 4: low-scoring former Title I students from traditional Title I attendance areas and served by SCE.
Group 5: low-scoring former Title I students from traditional Title I attendance areas who were not served by SCE.

The pretest and posttest scores were April, 1980 and April, 1981 ITBS Average Reading grade equivalent scores respectively except at first grade where MRT Pre-Reading Composite raw score was the pretest.

The regression analysis results are reported in Figures D-36 through D-41 and Attachment D-8. Each set of analyses has at least one significant comparison. Figures D-42 through D-47 were prepared using the simplest acceptable model in each analysis. They show the results when the group's pretest mean score was substituted into the resulting regression equation to get an expected posttest score and a gain. In cases where the groups had sifnificantly different regression slopes, a common pretest value (the total group mean) was also used to get an expected posttest score.

Evaluation Question D2-3: Were the achievement gains made by high-achieving students (above 40th percentile) in the schoolwide projects equal to the gains made by high-achieving students in regular Title I schools?

The models in Attachment D-1 were first used to see if the gains by high achievers at Allison and Becker differed significantly. The results in Figures D-48 through D-50 show that they did not. For these analyses, group 1 was defined as high-achieving students at Allison (see Attachment D-9).

The two groups of schoolwide project students were then combined into one group for comparison with high achievers at other schools. The models used in these analyses are described in Attachment D-10 and the results are reported in Figures D-51 through D-56 and Attachment D-11. Tables were created (Figures D-57 through D-60) for those grades at which significant differences occurred between models. They were prepared in the same way as the tables described under Evaluation Question D2-2.

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of nonparticipants in the control group?

The analyses conducted to answer this question were done using the models described in Attachment D-1. Group 1 was made up of Rainbow Kit recipients and Group 2 was nonrecipients. Pretest and posttest scores were the same as those used in the other analyses reported in this appendix. The results are reported in Figures D-61 through D-65 and Attachment D-12. A figure is included for grade 1 because the analysis done at that grade did not seem to be valid. A hand calculation showed the correlation between pretest and posttest for the control group at grade 1 to be -.03. There were no significant differences between participants and controls at other grades.

Information Need I20: Using a Model C evaluation model, what NCE gain was made by Title I students at grades 2-6?

Information Need I21: What were the correlations between the pretest and posttest at grades 2-6 for Title I and comparison students? ...the standard deviations?

The Model C analyses for the TEA report were done in two parts.

1. The model described in Attachment D-13 was used separately with Title I students and the comparison group at each grade. The comparison group was made up of non-Title I students in Title I schools who scored above the Title I eligibility criterion. These analyses provided all of the information necessary for the Model C comparisons.

2. The second part was to use the models in Attachment D-1 to compare the two groups. The main reason was to check for unequivalent slopes. Group 1 in the analyses was made up of Title I students.

Figures D-66 through D-75 display the Model C results and the other information required by TEA. Attachment D-14 provides the printed output. The results of the significance tests comparing the two groups can be found in Figures D-76 through D-80 and Attachment D-15.

Results		Expected	Will Score
Number	Percent	Percent	(in Grade Equivalents)...
114	18.2	18	>1.9
50	8.0	9	1.7 to 1.8
107	17.1	18	1.4 to 1.6
132	21.1	21	1.1 to 1.3
223	35.6	34	≤1.0

Mean = 1.32

Percent Pre- and Posttested = 80.8

Figure D-1. MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 1, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	Will Gain
Number	Percent	Percent	(in Grade Equivalents)...
36	11.5	4	≥1.6 months per month
79	25.2	17	1.0-1.5 months per month
84	26.8	21	0.6-0.9 months per month
83	26.4	32	0.1-0.5 months per month
32	10.2	26	will show no gain

Pretest average = 1.08

Posttest average = 1.88

Average gain = 0.80

Percent Pre- and Posttested = 60.2

Figure D-2. MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 2, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	Will Gain
Number	Percent	Percent	(in Grade Equivalents)...
54	15.1	10	≥1.6 months per month
105	29.3	28	1.0-1.5 months per month
99	27.7	33	0.6-0.9 months per month
77	21.5	19	0.1-0.5 months per month
23	6.4	10	will show no gain

Pretest average = 1.75

Posttest average = 2.66

Average gain = 0.91

Percent Pre- and Posttested = 68.1

Figure D-3. MEASUREMENT OF READING COMPONENT OBJECTIVE AT GRADE 3, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	
Number	Percent	Percent	Will Gain...
59	17.0	12	≥10 percentile points
24	6.9	3	7-9 percentile points
23	6.6	4	4-6 percentile points
46	13.3	8	1-3 percentile points
195	56.2	73	≤0 percentile points

Percent Pre- and Posttested = 73.5

Figure D-4. MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 4 READING TOTAL PERCENTILE.

Results		Expected	
Number	Percent	Percent	Will Gain...
77	24.1	15	≥10 percentile points
24	7.5	7	7-9 percentile points
34	10.6	7	4-6 percentile points
50	15.6	15	1-3 percentile points
135	42.2	56	≤0 percentile points

Percent Pre- and Posttested = 73.9

Figure D-5. MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 5, READING TOTAL PERCENTILE.

Results		Expected	
Number	Percent	Percent	Will Gain...
61	21.2	15	≥10 percentile points
22	7.6	7	7-9 percentile points
37	12.9	7	4-6 percentile points
34	11.8	15	1-3 percentile points
134	46.5	56	≤0 percentile points

Percent Pre- and Posttested = 73.1

Figure D-6. MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 6, READING TOTAL PERCENTILE.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.1622	.1643	1, 388	0.000	1.0000
2	vs	3	.1643	.1642	1, 389	0.014	0.9003
3	vs	4	.1642	.1636	1, 390	0.311	0.5844
4	vs	5	.1636	.1390	1, 391	11.504	0.0011

Figure D-7. MODELS COMPARING TITLE I STUDENTS (N=293) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=101) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 1.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.0467	.0457	1, 304	0.327	0.5749
2	vs	3	.0457	.0376	1, 305	2.596	0.1041
3	vs	4	.0376	.0339	1, 306	1.149	0.2844
4	vs	5	.0339	.0334	1, 307	0.184	0.6725

Figure D-8. MODELS COMPARING TITLE I STUDENTS (N=224) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=86) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.2474	.2476	1, 300	0.000	1.0000
2	*vs*	3	.2476	.2429	1, 301	1.864	0.1696
3	*vs*	4	.2429	.2416	1, 302	0.551	0.4653
4	*vs*	5	.2416	.2407	1, 303	0.358	0.5570

Figure D-9. MODELS COMPARING TITLE I STUDENTS (N=241) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=65) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.4612	.4604	1, 366	0.501	0.4867
2	*vs*	3	.4604	.4540	1, 367	4.372	0.0349
3	*vs*	4	.4540	.4541	1, 368	0.000	1.0000
4	*vs*	5	.4541	.4519	1, 369	1.442	0.2285

Figure D-10. MODELS COMPARING TITLE I STUDENTS (N=264) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=108) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.6040	.6039	1, 360	0.067	0.7914
2	vs	3	.6039	.5879	1, 361	14.614	0.0004
3	vs	4	.5879	.5876	1, 362	0.251	0.6229
4	vs	5	.5876	.5862	1, 363	1.276	0.2581

Figure D-11. MODELS COMPARING TITLE I STUDENTS (N=239) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=127) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5858	.5865	1, 332	0.000	1.0000
2	vs	3	.5865	.5854	1, 333	0.862	0.3563
3	vs	4	.5854	.5847	1, 334	0.529	0.4745
4	vs	5	.5847	.5844	1, 335	0.297	0.5930

Figure D-12. MODELS COMPARING TITLE I STUDENTS (N=188) FROM TRADITIONAL TITLE I ATTENDANCE AREAS WITH FORMER TITLE I STUDENTS (N=150) ALSO FROM TRADITIONAL TITLE I ATTENDANCE AREAS, GRADE 6.

Grade	Criterion	Scored High Enough to Exit	
		Number	Percent
1	≤1.5 G.E.	282	33
2	≤2.5 G.E.	45	9
3	≤40th %ile	32	6
4	≤40th %ile	28	5
5	≤40th %ile	27	5

Figure D-13. NUMBER AND PERCENT OF 1979-80 TITLE I PARTICIPANTS WHO EXITED FROM THE PROGRAM IN APRIL, 1980.

80.71

Rating of Support	N	Pretest Grade Equivalent .5	1.0	1.34	1.5	1.75*	2.0	2.5
Very Low	0	-	-	-	-	-	-	-
Low	94	1.46	1.98	2.34	2.51	2.77	3.04	3.56
Average	37	1.61	2.05	2.34	2.48	2.70	2.91	3.35
High	190	1.77	2.11	2.34	2.45	2.62	2.79	3.13
Very High	36	1.92	2.17	2.34	2.42	2.54	2.67	2.92

*Mean pretest value for all students

Figure D-14. PREDICTED POSTTEST GRADE EQUIVALENT SCORES FOR DIFFERENT LEVELS OF PRETEST SCORE AND RATING OF PRINCIPALS' SUPPORT FOR THE TITLE I PROGRAM, GRADE 3.

Rating of Support	N	Pretest Grade Equivalent 2.0	2.5	3.0	3.33*	3.5	4.0	4.5
Very Low	93	2.98	3.34	3.79	4.13	4.32	4.93	5.63
Low	38	3.09	3.33	3.66	3.92	4.07	4.57	5.15
Average	80	2.82	3.31	3.89	4.32	4.55	5.30	6.12
High	101	3.00	3.38	3.84	4.19	4.38	5.01	5.72
Very High	6	3.06	3.45	3.91	4.27	4.47	5.10	5.82

*Mean pretest value for all students

Figure D-15. PREDICTED POSTTEST GRADE EQUIVALENT SCORES FOR DIFFERENT LEVELS OF PRETEST SCORE AND RATING OF PRINCIPALS' SUPPORT FOR THE TITLE I PROGRAM, GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.0792	.0779	3, 300	0.136	.938
2	vs	3	.0779	.0673	5, 303	0.697	.628
3	vs	4	.0673	.0642	2, 308	0.504	.611
3	vs	5	.0673	.0667	1, 308	0.211	.651
5	vs	4	.0667	.0642	1, 309	0.799	.376

Figure D-16. COMPARISON OF MODELS RELATING STUDENT ACHIEVEMENT AND LEVELS OF PRINCIPAL SUPPORT FOR TITLE I: VERY LOW SUPPORT (N=0), LOW (N=68), AVERAGE (N=26), HIGH (N=172), AND VERY HIGH (N=46). GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.3172	.3175	3, 345	0.000	1.000
2	vs	3	.3175	.3077	5, 348	0.996	0.421
3	vs	4	.3077	.2822	2, 353	6.500	0.002
3	vs	5	.3077	.2910	1, 353	8.555	0.004
5	vs	4	.2910	.2822	1, 354	4.352	0.035

Figure D-17. COMPARISON OF MODELS RELATING STUDENT ACHIEVEMENT AND LEVELS OF PRINCIPAL SUPPORT FOR TITLE I: VERY LOW SUPPORT (N=0), LOW (N=94), AVERAGE (N=37), HIGH (N=190), AND VERY HIGH (N=36). GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4902	.4903	4, 330	0.000	1.000
2	vs	3	.4903	.4824	7, 334	0.734	0.645
3	vs	4	.4824	.4782	2, 341	1.394	0.248
3	vs	5	.4824	.4793	1, 341	2.063	0.148
5	vs	4	.4793	.4782	1, 342	0.722	0.401

Figure D-18. COMPARISON OF MODELS RELATING STUDENT ACHIEVEMENT AND LEVELS OF PRINCIPAL SUPPORT FOR TITLE I: VERY LOW SUPPORT (N=99), LOW (N=52), AVERAGE (N=80), HIGH (N=106), AND VERY HIGH (N=8). GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.6397	.6407	4, 303	0.000	1.000
2	vs	3	.6407	.6065	7, 307	4.182	<0.001
3	vs	4	.6065	.6012	2, 314	2.119	0.120
3	vs	5	.6065	.6040	1, 314	1.971	0.158
5	vs	4	.6040	.6012	1, 315	2.260	0.130

Figure D-19. COMPARISON OF MODELS RELATING STUDENT ACHIEVEMENT AND LEVELS OF PRINCIPAL SUPPORT FOR TITLE I: VERY LOW SUPPORT (N=93), LOW (N=38), AVERAGE (N=80), HIGH (N=101), AND VERY HIGH (N=6). GRADE 5.

80.71

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.5570	.5548	4, 273	0.342	0.850
2	*vs*	3	.5548	.5425	7, 277	1.096	0.366
3	*vs*	4	.5425	.5416	2, 284	0.261	0.774
3	*vs*	5	.5425	.5420	1, 284	0.312	0.584
5	*vs*	4	.5420	.5416	1, 285	0.211	0.651

Figure D-20. COMPARISON OF MODELS RELATING STUDENT ACHIEVEMENT AND LEVELS OF PRINCIPAL SUPPORT FOR TITLE I: VERY LOW SUPPORT (N=82), LOW (N=40), AVERAGE (N=67), HIGH (N=93), AND VERY HIGH (N=6). GRADE 6.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.6177	.6146	1, 42	0.335	0.5728
2	vs	3	.6146	.6032	1, 43	1.277	0.2638
3	vs	4	.6032	.5852	1, 44	1.993	0.1616
4	vs	5	.5852	.5823	1, 45	0.313	0.5851

Figure D-21. MODELS COMPARING AT HOME PARTICIPANTS (N=24) WITH CONTROLS (N=24), GRADE 1.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4420	.4122	1, 88	4.689	0.0310
2	vs	3	.4122	.3583	1, 89	8.162	0.0055
3	vs	4	.3583	.3362	1, 90	3.105	0.0777
4	vs	5	.3362	.3276	1, 91	1.177	0.2805

Figure D-22. MODELS COMPARING AT HOME PARTICIPANTS (N=47) WITH CONTROLS (N=47), GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5143	.5151	1, 38	0.000	1.0000
2	vs	3	.5151	.5070	1, 39	0.651	0.4303
3	vs	4	.5070	.5034	1, 40	0.287	0.6015
4	vs	5	.5034	.4967	1, 41	0.554	0.4676

Figure D-23. MODELS COMPARING AT HOME PARTICIPANTS (N=22) WITH CONTROLS (N=22), GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5725	.5563	1, 22	0.835	0.3739
2	vs	3	.5563	.5414	1, 23	0.771	0.3928
3	vs	4	.5414	.5217	1, 24	1.030	0.3214
4	vs	5	.5217	.5081	1, 25	0.713	0.4112

Figure D-24. MODELS COMPARING AT HOME PARTICIPANTS (N=14) WITH CONTROLS (N=14), GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.9167	.9119	1, 36	2.058	0.1566
2	vs	3	.9119	.9119	1, 37	0.000	1.0000
3	vs	4	.9119	.8912	1, 38	8.933	0.0051
4	vs	5	.8912	.8906	1, 39	0.219	0.6474

Figure D-25. MODELS COMPARING AT HOME PARTICIPANTS (N=21) WITH CONTROLS (N=21), GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.8135	.7922	1, 26	2.978	0.0928
2	vs	3	.7922	.7219	1, 27	9.126	0.0056
3	vs	4	.7219	.7217	1, 28	0.027	0.8640
4	vs	5	.7217	.6968	1, 29	2.587	0.1150

Figure D-26. MODELS COMPARING AT HOME PARTICIPANTS (N=16) WITH CONTROLS (N=16), GRADE 6.

Results		Expected	Will Gain
Number	Percent	Percent	(in Grade Equivalents)...
21	27.3	13	≥1.9
9	11.7	11	1.7 to 1.8
12	15.6	19	1.4 to 1.6
14	18.2	24	1.1 to 1.3
21	27.3	33	≤1.0

Figure D-27. MEASUREMENT OF THE ALLISON SCHOOLWIDE OBJECTIVE AT GRADE 1, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	Will Gain
Number	Percent	Percent	(in Grade Equivalents)...
20	25.6	9	≥1.6 months per month
23	29.5	13	1.0-1.5 months per month
13	16.7	29	0.6-0.9 months per month
13	16.7	31	0.1-0.5 months per month
9	11.5	18	will show no gain

Figure D-28. MEASUREMENT OF THE ALLISON SCHOOLWIDE OBJECTIVE AT GRADE 2, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	Will Gain
Number	Percent	Percent	(in Grade Equivalents)...
18	21.4	22	≥1.6 months per month
41	48.8	37	1.0-1.5 months per month
14	16.7	29	0.6-0.9 months per month
9	10.7	10	0.1-0.5 months per month
2	2.4	2	will show no gain

Figure D-29. MEASUREMENT OF THE ALLISON SCHOOLWIDE OBJECTIVE AT GRADE 3, AVERAGE READING GRADE EQUIVALENT.

Results		Expected Percent	Will Gain (in Grade Equivalents)...
Number	Percent		
51	63.8	52	≥1.9
4	5.0	13	1.7 to 1.8
10	12.5	17	1.4 to 1.6
11	13.8	7	1.1 to 1.3
4	5.0	11	≤1.0

Figure D-30. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 1, AVERAGE READING GRADE EQUIVALENT.

Results		Expected Percent	Will Gain (in Grade Equivalents)...
Number	Percent		
10	13.9	1	≥1.6 months per month
11	15.3	9	1.0-1.5 months per month
19	26.4	14	0.6-0.9 months per month
18	25.0	32	0.1-0.5 months per month
14	19.4	44	will show no gain

Figure D-31. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 2, AVERAGE READING GRADE EQUIVALENT.

Results		Expected Percent	Will Gain (in Grade Equivalents)...
Number	Percent		
10	13.3	4	≥1.6 months per month
27	36.0	31	1.0-1.5 months per month
26	34.7	26	0.6-0.9 months per month
10	13.3	24	0.1-0.5 months per month
2	2.7	15	will show no gain

Figure D-32. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 3, AVERAGE READING GRADE EQUIVALENT.

Results		Expected	
Number	Percent	Percent	Will Gain...
9	16.1	8	≥10 percentile points
8	14.3	3	7-9 percentile points
8	14.3	6	4-6 percentile points
4	7.1	8	1-3 percentile points
27	48.2	75	≤0 percentile points

Figure D-33. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 4, READING TOTAL PERCENTILE.

Results		Expected	
Number	Percent	Percent	Will Gain...
17	45.9	17	≥10 percentile points
2	5.4	3	7-9 percentile points
6	16.2	8	4-6 percentile points
1	2.7	18	1-3 percentile points
11	29.7	54	≤0 percentile points

Figure D-34. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 5, READING TOTAL PERCENTILE.

Results		Expected	
Number	Percent	Percent	Will Gain...
17	27.4	17	≥10 percentile points
3	4.8	3	7-9 percentile points
8	12.9	8	4-6 percentile points
17	27.4	18	1-3 percentile points
17	27.4	54	≤0 percentile points

Figure D-35. MEASUREMENT OF THE BECKER SCHOOLWIDE OBJECTIVE AT GRADE 6, READING TOTAL PERCENTILE.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.1978	.1980	4, 502	0.000	1.0000
2	*vs*	3	.1980	.1988	1, 506	0.000	1.0000
3	*vs*	4	.1988	.1886	4, 507	1.614	0.1682
4	*vs*	5	.1886	.1422	4, 511	7.306	0.0001

Figure D-36. MODELS COMPARING LOW ACHIEVING STUDENTS AT ALLISON (N=54), AND BECKER (N=39), TITLE I REGULAR STUDENTS (N=293), FORMER TITLE I STUDENTS SERVED BY SCE (N=30), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=101), GRADE 1.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.1084	.0979	4, 408	1.204	0.3080
2	*vs*	3	.0979	.0929	1, 412	2.248	0.1305
3	*vs*	4	.0929	.0838	4, 413	1.045	0.3843
4	*vs*	5	.0838	.0404	4, 417	4.930	0.0010

Figure D-37. MODELS COMPARING LOW ACHIEVING STUDENTS AT ALLISON (N=53) AND BECKER (N=24), TITLE I REGULAR STUDENTS (N=224), FORMER TITLE I STUDENTS SERVED BY SCE (N=36), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=86), GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.3316	.3325	4, 439	0.000	1.0000
2	*vs*	3	.3325	.3318	1, 443	0.493	0.4903
3	*vs*	4	.3318	.3166	4, 444	2.515	0.0403
4	*vs*	5	.3166	.2840	4, 448	5.348	0.0006

Figure D-38. MODELS COMPARING LOW ACHIEVING STUDENTS AT ALLISON (N=66) AND BECKER (N=46), TITLE I REGULAR STUDENTS (N=241), FORMER TITLE I STUDENTS SERVED BY SCE (N=36), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=65), GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4974	.4973	3, 491	0.039	0.9892
2	vs	3	.4973	.4897	1, 494	7.403	0.0068
3	vs	4	.4897	.4867	3, 495	0.970	0.4078
4	vs	5	.4867	.4698	3, 498	5.479	0.0014

Figure D-39. MODELS COMPARING LOW ACHIEVING STUDENTS AT BECKER (N=29), TITLE I REGULAR STUDENTS (N=264), FORMER TITLE I STUDENTS SERVED BY SCE (N=102), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=108), GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.6149	.6142	3, 459	0.274	0.8452
2	vs	3	.6142	.6028	1, 462	13.704	0.0005
3	vs	4	.6028	.5977	3, 463	1.964	0.1171
4	vs	5	.5977	.5841	3, 466	5.251	0.0018

Figure D-40. MODELS COMPARING LOW ACHIEVING STUDENTS AT BECKER (N=24), TITLE I REGULAR STUDENTS (N=239), FORMER TITLE I STUDENTS SERVED BY SCE (N=81), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=127), GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5803	.5805	3, 448	0.000	1.0000
2	vs	3	.5805	.5752	1, 451	5.647	0.0170
3	vs	4	.5752	.5745	3, 452	0.261	0.8550
4	vs	5	.5745	.5687	3, 455	2.048	0.1049

Figure D-41. MODELS COMPARING LOW ACHIEVING STUDENTS AT BECKER (N=46), TITLE I REGULAR STUDENTS (N=188), FORMER TITLE I STUDENTS SERVED BY SCE (N=76), AND FORMER TITLE I STUDENTS NOT SERVED BY SCE (N=150), GRADE 6.

Group	N	Pretest Mean	Predicted Posttest	Predicted Posttest for Common Pretest*
Allison	54	31.8	1.277	1.331
Becker	39	38.2	1.760	1.667
Title I	293	33.8	1.247	1.256
FTI-S**	30	28.9	1.134	1.256
FTI-N***	101	36.6	1.513	1.458

* Overall pretest mean 34.1799

** Former Title I Students Served by SCE

*** Former Title I Students Not Served by SCE

Figure D-42. EXPECTED POSTTEST PERFORMANCE FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 1. MODEL 4 USED TO OBTAIN POSTTEST SCORES.

Group	N	Pretest Mean	Predicted Posttest	Gain
Allison	53	1.12	2.18	1.06
Becker	24	1.17	1.82	.65
Title I	224	1.08	1.86	.78
FTI-S*	36	.98	1.58	.60
FTI-N*	86	1.01	1.87	.86

* See Figure D-42 for definition.

Figure D-43. EXPECTED GAIN FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 2. MODEL 4 USED TO OBTAIN POSTTEST SCORES.

Group	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest*
Allison	66	1.71	2.82	1.11	1.10
Becker	46	1.63	2.55	.92	.98
Title I	241	1.72	2.59	.87	.86
FTI-S**	36	1.58	2.20	.62	.65
FTI-N**	65	1.74	2.66	.92	.90

* Overall pretest mean=1.7033.
** See Figure D-42 for definitions.

Figure D-44. EXPECTED GAIN FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 3. MODEL 3 USED TO OBTAIN POSTTEST SCORES.

Group	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest*
Becker	29	2.58	3.52	.94	.94
Title I	264	2.64	3.34	.70	.70
FTI-S**	102	2.29	2.78	.49	.47
FTI-N**	108	2.49	3.11	.62	.62

* Overall pretest mean=2.5332.
** See Figure D-42 for definitions.

Figure D-45. EXPECTED GAINS FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 4. MODEL 2 USED TO OBTAIN POSTTEST SCORES.

Group	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest*
Becker	24	3.47	4.63	1.16	1.15
Title I	239	3.31	4.12	.81	.80
FTI-S**	81	2.75	3.37	.62	.56
FTI-N**	127	3.11	3.86	.75	.75

* Overall pretest mean=3.1692.
** See Figure D-42 for definitions.

Figure D-46. EXPECTED GAIN FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 5. MODEL 2 WAS USED TO OBTAIN POSTTEST SCORES.

Group	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest*
Becker	46	3.95	4.92	.97	.97
Title I	188	4.02	4.77	.75	.75
FTI-S**	76	3.62	4.33	.71	.69
FTI-N**	150	4.03	4.83	.80	.81

* Overall pretest mean=3.9496.
** See Figure D-42 for definitions.

Figure D-47. EXPECTED GAIN FOR LOW-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 6. MODEL 2 WAS USED TO OBTAIN POSTTEST SCORES.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.3126	.3137	1, 58	0.000	1.0000
2	vs	3	.3137	.3104	1, 59	0.282	0.6040
3	vs	4	.3104	.3065	1, 60	0.342	0.5680
4	vs	5	.3065	.2750	1, 61	2.772	0.0972

Figure D-48. MODELS COMPARING HIGH ACHIEVERS AT ALLISON (N=23) AND BECKER (N=41) SCHOOLWIDE PROJECTS, GRADE 1.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.4192	.4188	1, 67	0.042	0.8327
2	vs	3	.4188	.4183	1, 68	0.058	0.8060
3	vs	4	.4183	.4185	1, 69	0.000	1.0000
4	vs	5	.4185	.4051	1, 70	1.619	0.2048

Figure D-49. MODELS COMPARING HIGH ACHIEVERS AT ALLISON (N=25) AND BECKER (N=48) SCHOOLWIDE PROJECTS, GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5544	.5550	1, 41	0.000	1.0000
2	vs	3	.5550	.5576	1, 42	0.000	1.0000
3	vs	4	.5576	.5523	1, 43	0.517	0.4828
4	vs	5	.5523	.5309	1, 44	2.105	0.1503

Figure D-50. MODELS COMPARING HIGH ACHIEVERS AT ALLISON (N=18) AND BECKER (N=29) SCHOOLWIDE PROJECTS, GRADE 3.

80.71

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.2701	.3044	2, 711	0.000	1.0000
2	*vs*	3	.3044	.2858	1, 713	19.091	0.0001
3	*vs*	4	.2858	.2860	2, 714	0.000	1.0000
4	*vs*	5	.2860	.2837	2, 716	1.143	0.3194

Figure D-51. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS (N=64) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=380) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=276), GRADE 1.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.4396	.4460	2, 709	0.000	1.0000
2	*vs*	3	.4460	.4466	1, 711	0.000	1.0000
3	*vs*	4	.4466	.4419	2, 712	3.002	0.0488
4	*vs*	5	.4419	.4414	2, 714	0.307	0.7405

Figure D-52. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS (N=73) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=284) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=361), GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5053	.5220	2, 614	0.000	1.0000
2	vs	3	.5220	.5179	1, 616	5.278	0.0207
3	vs	4	.5179	.5178	2, 617	0.086	0.9170
4	vs	5	.5718	.5082	2, 619	6.176	0.0026

Figure D-53. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS (N=47) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=268) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=308), GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5777	.5773	2, 518	0.217	0.8072
2	vs	3	.5773	.5780	1, 520	0.000	1.0000
3	vs	4	.5780	.5766	2, 521	0.866	0.4244
4	vs	5	.5766	.5745	2, 523	1.314	0.2688

Figure D-54. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS (N=27) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=176) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=324), GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.6764	.6764	2, 391	0.000	1.0000
2	vs	3	.6764	.6768	1, 393	0.000	1.0000
3	vs	4	.6768	.6778	2, 394	0.000	1.0000
4	vs	5	.6778	.6715	2, 396	3.871	0.0211

Figure D-55. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS (N=13) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=147) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=240), GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.7461	.7459	2, 402	0.099	0.9050
2	vs	3	.7459	.7606	1, 404	0.000	1.0000
3	vs	4	.7606	.7614	2, 405	0.000	1.0000
4	vs	5	.7614	.7592	2, 407	1.800	0.1645

Figure D-56. MODELS COMPARING HIGH ACHIEVERS AT SCHOOLWIDE PROJECTS N=16) WITH HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS) (N=157) AND HIGH-ACHIEVING FORMER TITLE I STUDENTS ATTENDING NON-TITLE I SCHOOLS (N=238), GRADE 6.

80.71

Group*	N	Pretest Mean	Predicted Posttest	Predicted Posttest for Common Pretest**
SWP	64	55.55	2.54	2.34
TI	380	59.35	2.40	2.36
FTI	276	58.63	2.42	2.43

* SWP=high-achieving students at Allison and Becker schoolwide projects.
TI =high achievers in Title I schools from traditional Title I areas.
FTI=high achievers in non-Title I schools from traditional Title I areas.

** Overall pretest mean=58.7333.

Figure D-57. EXPECTED POSTTEST PERFORMANCE FOR HIGH-ACHIEVING STUDENTS AT SCHOOLWIDE PROJECTS, HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS), AND HIGH ACHIEVERS FROM FORMER TITLE I SCHOOLS NOT ATTENDING A NON-TITLE I SCHOOL, GRADE 1. MODEL 2 USED TO OBTAIN POSTTEST SCORES.

Group*	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest**
SWP	73	2.11	2.85	.74	.80
TI	284	2.23	3.02	.79	.79
FTI	361	2.48	3.26	.78	.80

* For definitions see Figure D-57.

** Overall pretest mean=2.3422.

Figure D-58. EXPECTED POSTTEST PERFORMANCE FOR HIGH-ACHIEVING STUDENTS AT SCHOOLWIDE PROJECTS, HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS), AND HIGH ACHIEVERS FROM FORMER TITLE I SCHOOLS NOT ATTENDING A NON-TITLE I SCHOOL, GRADE 2. MODEL 3 USED TO OBTAIN POSTTEST SCORES.

80.71

Group*	N	Pretest Mean	Predicted Posttest	Gain	Gain With Common Pretest**
SWP	47	3.13	4.27	1.14	1.14
TI	268	3.37	4.22	.85	.85
FTI	308	3.42	4.24	.82	.82

* For definitions see Figure D-57.
** Overall pretest mean=3.3754.

Figure D-59. EXPECTED POSTTEST PERFORMANCE FOR ~~LOW~~ HIGH-ACHIEVING STUDENTS AT SCHOOLWIDE PROJECTS, HIGH ACHIEVERS FROM TITLE I SCHOOLS (FROM TRADITIONAL TITLE I ATTENDANCE AREAS), AND HIGH ACHIEVERS FROM FORMER TITLE I SCHOOLS NOW ATTENDING A NON-TITLE I SCHOOL, GRADE 3. MODEL 2 USED TO OBTAIN POSTTEST SCORES.

Group*	N	Pretest Mean	Predicted Posttest	Gain
SWP	13	5.38	6.91	1.54
TI	147	5.81	6.89	1.09
FTI	240	5.68	6.73	1.05

* For definitions see Figure D-57.

Figure D-60. EXPECTED GAIN FOR ~~LOW~~ HIGH-ACHIEVING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS, FORMER TITLE I STUDENTS SERVED BY SCE, AND FORMER TITLE I STUDENTS NOT SERVED BY SCE, GRADE 5. MODEL 4 USED TO OBTAIN POSTTEST SCORES.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.1123	.0980	1, 70	1.131	0.2914
2	vs	3	.0980	.0656	1, 71	2.555	0.1105
3	vs	4	.0656	.0588	1, 72	0.518	0.4808
4	vs	5	.0588	.0558	1, 73	0.234	0.6356

Figure D-61. MODELS COMPARING RAINBOW KIT PARTICIPANTS (N=35) WITH CONTROLS (N=41), GRADE 2.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.3827	.3766	1, 79	0.773	.3859
2	vs	3	.3766	.3498	1, 80	3.445	.0637
3	vs	4	.3498	.3496	1, 81	0.028	.8628
4	vs	5	.3496	.3386	1, 82	1.387	.2406

Figure D-62. MODELS COMPARING RAINBOW KIT PARTICIPANTS (N=45) WITH CONTROLS (N=40), GRADE 3.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.5588	.5591	1, 95	0.000	1.0000
2	vs	3	.5591	.5605	1, 96	0.000	1.0000
3	vs	4	.5605	.5606	1, 97	0.000	1.0000
4	vs	5	.5606	.5603	1, 98	0.069	0.7891

Figure D-63. MODELS COMPARING RAINBOW KIT PARTICIPANTS (N=57) WITH CONTROLS (N=44), GRADE 4.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.5527	.5546	1, 84	0.000	1.0000
2	*vs*	3	.5546	.5551	1, 85	0.000	1.0000
3	*vs*	4	.5551	.5496	1, 86	1.087	0.3051
4	*vs*	5	.5496	.5474	1, 87	0.426	0.5229

Figure D-64. MODELS COMPARING RAINBOW KIT PARTICIPANTS (N=53) WITH CONTROLS (N=37), GRADE 5.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.4863	.4879	1, 73	0.000	1.0000
2	*vs*	3	.4879	.4941	1, 74	0.000	1.0000
3	*vs*	4	.4941	.4835	1, 75	1.578	0.2105
4	*vs*	5	.4835	.4678	1, 76	2.304	0.1293

Figure D-65. MODELS COMPARING RAINBOW KIT PARTICIPANTS (N=33) WITH CONTROLS (N=46), GRADE 6.

Point of Measurement	Posttest for Title I Students Predicted From...						NCE Gain
	Title I Equation			Comparison Group Equation			
	GE	%ile	NCE	GE	%ile	NCE	
Pretest Mean (1.08)	1.88	17.2	30.1	1.85	16.0	29.1	1.0
Cutoff Score (1.50)	2.09	22.8	34.3	2.31	30.2	39.1	-4.8

Comparison Group Equation: Posttest = .6795 + 1.0875 (Pretest)

Title I Group Equation: Posttest = 1.3454 + .495 (Pretest)

Figure D-66. TITLE I MODEL C ANALYSIS RESULTS FOR GRADE 2. (Title I N=312, Comparison N=633)

Group	N	Pretest		Posttest		Correlation Pre-Post
		Mean	S.D.	Mean	S.D.	
Title I	312	1.08	0.33	1.88 (30.1)	0.65	.25
Comparison	633	2.49	0.66	3.39	0.94	.76

Figure D-67. PRETEST AND POSTTEST MEAN, STANDARD DEVIATION, AND CORRELATION, READING TOTAL GRADE EQUIVALENT, GRADE 2. Number in parentheses is Title I posttest NCE score.

Point of Measurement	Posttest for Title I Students Predicted From...						NCE Gain
	Title I Equation			Comparison Group Equation			
	GE	%ile	NCE	GE	%ile	NCE	
Pretest Mean (1.75)	2.66	19.2	31.7	2.76	21.2	33.2	-1.5
Cutoff Score (2.50)	3.25	34.0	41.3	3.44	38.8	44.0	-2.7

Comparison Group Equation: Posttest = 1.1888 + .9005 (Pretest)

Title I Group Equation: Posttest = 1.2859 + .7863 (Pretest)

Figure D-68. TITLE I MODEL C ANALYSIS RESULTS FOR GRADE 3. (Title I N=357, Comparison N=658)

Group	N	Pretest		Posttest		Correlation Pre-Post
		Mean	S.D.	Mean	S.D.	
Title I	357	1.75	0.45	2.66 (31.7)	0.67	.53
Comparison	658	3.66	0.76	4.48	0.93	.73

Figure D-69. PRETEST AND POSTTEST MEAN, STANDARD DEVIATION, AND CORRELATION, READING TOTAL GRADE EQUIVALENT, GRADE 3. Number in parentheses is Title I posttest NCE score.

Point of Measurement	Posttest for Title I Students Predicted From...						NCE Gain
	Title I Equation			Comparison Group Equation			
	GE	%ile	NCE	GE	%ile	NCE	
Pretest Mean (2.63)	3.47	15.8	28.9	3.24	12.4	25.7	3.2
Cutoff Score (3.50)	4.35	36.5	42.7	4.35	36.5	42.7	0.0

Comparison Group Equation: Posttest =.-.1203 + 1.278 (Pretest)

Title I Group Equation: Posttest = .7833 + 1.02 (Pretest)

Figure D-70. TITLE I MODEL C ANALYSIS RESULTS FOR GRADE 4. (Title I N=345, Comparison N=445).

Group	N	Pretest		Posttest		Correlation Pre-Post
		Mean	S.D.	Mean	S.D.	
Title I	345	2.63	0.57	3.46 (28.9)	0.85	.69
Comparison	445	4.68	0.72	5.86	1.17	.79

Figure D-71. PRETEST AND POSTTEST MEAN, STANDARD DEVIATION, AND CORRELATION, READING TOTAL GRADE EQUIVALENT, GRADE 4. Number in parentheses is Title I posttest NCE score.

	Posttest for Title I Students Predicted From...						
Point of	Title I Equation			Comparison Group Equation			NCE
Measurement	GE	%ile	NCE	GE	%ile	NCE	Gain
Pretest Mean (3.33)	4.27	15.8	28.9	4.19	14.9	28.1	0.8
Cutoff Score (4.50)	5.53	41.6	45.5	5.49	40.8	45.1	0.4

Comparison Group Equation: Posttest = .4935 + 1.1111 (Pretest)

Title I Group Equation: Posttest = .6941 + 1.0741 (Pretest)

Figure D-72. TITLE I MODEL C ANALYSIS RESULTS FOR GRADE 5. (Title I N=318, Comparison Group N=442).

		Pretest		Posttest		Correlation
Group	N	Mean	S.D.	Mean	S.D.	Pre-Post
Title I	318	3.33	0.74	4.27 (15.8)	1.03	.78
Comparison	442	6.17	1.04	7.35	1.34	.87

Figure D-73. PRETEST AND POSTTEST MEAN, STANDARD DEVIATION, AND CORRELATION, READING TOTAL GRADE EQUIVALENT, GRADE 5. Number in parentheses is Title I posttest NCE score.

	Posttest for Title I Students Predicted From...						
Point of Measurement	Title I Equation			Comparison Group Equation			NCE Gain
	GE	%ile	NCE	GE	%ile	NCE	
Pretest Mean (4.08)	4.99	14.9	28.1	5.03	15.3	28.4	-0.3
Cutoff Score (5.45)	6.21	37.2	43.1	6.49	42.1	45.8	-2.7

Comparison Group Equation: Posttest = .6911 + 1.0646 (Pretest)

Title I Group Equation: Posttest = 1.3552 + .8917 (Pretest)

Figure D-74. TITLE I MODEL C ANALYSIS RESULTS FOR GRADE 6. (Title I N=288, Comparison Group N=461).

		Pretest		Posttest		Correlation
Group	N	Mean	S.D.	Mean	S.D.	Pre-Post
Title I	288	4.08	0.87	4.99 (14.9)	1.05	.74
Comparison	461	7.23	1.23	8.39	1.49	.88

Figure D-75. PRETEST AND POSTTEST MEAN, STANDARD DEVIATION, AND CORRELATION, READING TOTAL GRADE EQUIVALENT, GRADE 6. Number in parentheses is Title I posttest NCE score.

80.71

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.6957	.6952	1, 939	1.793	0.177
2	*vs*	3	.6952	.6953	1, 940	0.000	1.000
3	*vs*	4	.6953	.6860	1, 941	28.531	0.000
4	*vs*	5	.6860	.6857	1, 942	1.005	0.318

Figure D-76. MODELS COMPARING TITLE I (N=312) AND COMPARISON GROUP (N=633), GRADE 2--MODEL C.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.7533	.7518	1, 1009	6.261	0.012
2	*vs*	3	.7518	.7472	1, 1010	18.621	<0.001
3	*vs*	4	.7472	.7468	1, 1011	1.906	0.164
4	*vs*	5	.7468	.7457	1, 1012	4.081	0.041

Figure D-77. MODELS COMPARING TITLE I (N=357) AND NON-TITLE I (N=658), GRADE 3--MODEL C.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	*vs*	2	.8177	.8179	1, 784	0.000	1.000
2	*vs*	3	.8179	.8170	1, 785	4.162	0.039
3	*vs*	4	.8170	.8145	1, 786	10.695	0.002
4	*vs*	5	.8145	.8144	1, 787	0.320	0.579

Figure D-78. MODELS COMPARING TITLE I (N=345) AND NON-TITLE I (N=445), GRADE 4--MODEL C.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.8843	.8836	1, 754	4.625	0.030
2	vs	3	.8836	.8848	1, 755	0.000	1.000
3	vs	4	.8848	.8848	1, 756	0.000	1.000
4	vs	5	.8848	.8847	1, 757	0.312	0.584

Figure D-79. MODELS COMPARING TITLE I (N=318) AND NON-TITLE I (N=442), GRADE 5--MODEL C.

Models			RSQ				
Full		Restricted	Full	Restricted	df	F	p
1	vs	2	.8850	.8833	1, 743	10.894	0.001
2	vs	3	.8833	.8872	1, 744	0.000	1.000
3	vs	4	.8872	.8858	1, 745	9.098	0.003
4	vs	5	.8858	.8853	1, 746	3.369	0.063

Figure D-80. MODELS COMPARING TITLE I (N=288) AND NON-TITLE I (N=461), GRADE 6--MODEL C.

MODELS USED FOR EVALUATION QUESTIONS D1-6, D1-10, D2-3, AND D3-1 AND FOR INFORMATION NEED I20.

Model 1: $Y = a_0U + a_1X^{(3)} + a_3X^{(4)} + a_4X^{(6)} + a_5X^{(7)} + a_6X^{(8)} + E$

Model 2: $Y = a_7U + a_8X^{(3)} + a_9X^{(4)} + a_{10}X^{(5)} + a_{11}X^{(8)} + E$

Model 3: $Y = a_{12}U + a_{13}X^{(3)} + a_{14}X^{(4)} + a_{15}X^{(8)} + E$

Model 4: $Y = a_{16}U + a_{17}X^{(2)} + a_{18}X^{(8)} + E$

Model 5: $Y = a_{19}U + a_{20}X^{(2)} + E$

Where,

Y = posttest

U = unit vector

$X^{(2)}$ = pretest

$X^{(3)}$ = pretest if a member of Group 1; 0, otherwise

$X^{(4)}$ = pretest if a member of Group 2; 0 otherwise

$X^{(5)}$ = $X^{(2)}$ squared

$X^{(6)}$ = $X^{(3)}$ squared

$X^{(7)}$ = $X^{(4)}$ squared

$X^{(8)}$ = 1 if a member of Group 1; 0, otherwise

REGRESSION ANALYSES COMPARING TITLE I AND FORMER TITLE I STUDENTS AT GRADES 1-6.

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the original document was blank

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ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 1                         0860

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    394
CCL 11-15 =      5
CCL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                   0880


INTERCORRELATION ANALYSIS.


MEANS             1          2          3          4          5          6          7          8
             1.3155    34.4975    25.1117     9.3858  1255.1726   896.7716   358.4010     0.7437


SIGMAS            1          2          3          4          5          6          7          8
             0.5538     8.0683    16.3149    16.4410   532.8182   695.7255   665.3337     0.4366


R MATRIX          1          2          3          4          5          6          7          8

      1      1.0000     0.3728    -0.0683     0.2508     0.3691     0.0243     0.2702    -0.2124

      2      0.3728     1.0000     0.2316     0.2609     0.9891     0.4426     0.3293    -0.1540

      3     -0.0683     0.2316     1.0000    -0.8787     0.2187     0.9604    -0.8291     0.9037

      4      0.2508     0.2609    -0.8787     1.0000     0.2683    -0.7358     0.9844    -0.9723

      5      0.3691     0.9891     0.2187     0.2683     1.0000     0.4387     0.3421    -0.1575

      6      0.0243     0.4426     0.9604    -0.7358     0.4387     1.0000    -0.6943     0.7568

      7      0.2702     0.3293    -0.8291     0.9844     0.3421    -0.6943     1.0000    -0.9175

      8     -0.2124    -0.1540     0.9037    -0.9723    -0.1575     0.7568    -0.9175     1.0000
```

D-48

80.71

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.4027      RSQ = 0.1622          77 ITERATIONS.

  V       BETA         B
  3     0.1570      0.0053
  4     0.0         0.0
  6     0.3312      0.0003
  7     0.4837      0.0004
  8    -0.1610     -0.2042
REG. CONST. =       0.9528


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.4053      RSQ = 0.1643          97 ITERATIONS.

  V       BETA         B
  3     0.6588      0.0224
  4     0.7926      0.0267
  5     0.0079      0.0000
  8    -0.0359     -0.0455
REG. CONST. =       0.5269


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.4053      RSQ = 0.1642           2 ITERATIONS.

  V       BETA         B
  3     0.6669      0.0226
  4     0.8367      0.0282
  8     0.0         0.0
REG. CONST. =       0.4825


MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.4044      RSQ = 0.1636           2 ITERATIONS.

  V       BETA         B
  2     0.3483      0.0239
  8    -0.1588     -0.2014
REG. CONST. =       0.6405
```

```
MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.3728      RSQ = 0.1390          1 ITERATIONS.

  V       BETA        B
  2     0.3728      0.0256
REG. CONST. =       0.4328


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.1622        MODEL  1
RSQ REDUCED = 0.1643          MODEL  2
DIFFERENCE = -0.0021
DFN =  1.       DFD =  388.      F-RATIO =    0.0       P = 1.0000


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.1643        MODEL  2
RSQ REDUCED = 0.1642          MODEL  3
DIFFERENCE =  0.0000
DFN =  1.       DFD =  389.      F-RATIO =    0.014     P = 0.9003


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.1642        MODEL  3
RSQ REDUCED = 0.1636          MODEL  4
DIFFERENCE =  0.0007
DFN =  1.       DFD =  390.      F-RATIO =    0.311     P = 0.5844


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.1636        MODEL  4
RSQ REDUCED = 0.1390          MODEL  5
DIFFERENCE =  0.0246
DFN =  1.       DFD =  391.      F-RATIO =  11.504     P = 0.0011
```

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.2161      RSQ = 0.0467          55 ITERATIONS.

  V       BETA        B
  3    -0.0340    -0.0364
  4    -0.3494    -0.4181
  6     0.3079     0.2364
  7     0.4149     0.3883
  8    -0.1753    -0.2351
REG. CONST. =      1.8320


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.2137      RSQ = 0.0457          27 ITERATIONS.

  V       BETA        B
  3    -0.0657    -0.0703
  4    -0.1881    -0.2251
  5     0.2778     0.2594
  8    -0.1405    -0.1884
REG. CONST. =      1.7920


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.1938      RSQ = 0.0376          23 ITERATIONS.

  V       BETA        B
  3     0.3618     0.3867
  4     0.1320     0.1580
  8    -0.2033    -0.2727
REG. CONST. =      1.7148


MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.1842      RSQ = 0.0339           2 ITERATIONS.

  V       BETA        B
  2     0.1848     0.3056
  8    -0.0241    -0.0324
REG. CONST. =      1.5632
```

```
MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.1827     RSQ = 0.0334          1 ITERATIONS.

  V      BETA       B
  2    0.1827    0.3021
REG. CONST. =    1.5436


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.0467      MODEL  1
RSQ REDUCED = 0.0457      MODEL  2
DIFFERENCE =  0.0010
DFN =  1.      DFD =  304.     F-RATIO =    0.327    P = 0.5749


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.0457      MODEL  2
RSQ REDUCED = 0.0376      MODEL  3
DIFFERENCE =  0.0081
DFN =  1.      DFD =  305.     F-RATIO =    2.596    P = 0.1041


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.0376      MODEL  3
RSQ REDUCED = 0.0339      MODEL  4
DIFFERENCE =  0.0036
DFN =  1.      DFD =  306.     F-RATIO =    1.149    P = 0.2844


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.0339      MODEL  4
RSQ REDUCED = 0.0334      MODEL  5
DIFFERENCE =  0.0006
DFN =  1.      DFD =  307.     F-RATIO =    0.184    P = 0.6725
```

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```
MODEL   1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.4974      RSQ = 0.2474          20 ITERATIONS.

  V      BETA       B
  3    0.0        0.0
  4    0.0        0.0
  6    0.6345     0.2283
  7    0.4397     0.1978
  8   -0.0872    -0.1418
REG. CONST. =     2.0188


MODEL   2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.4976      RSQ = 0.2476          12 ITERATIONS.

  V      BETA       B
  3    0.0        0.0
  4   -0.1436    -0.1292
  5    0.5122     0.2296
  8   -0.1694    -0.2755
REG. CONST. =     2.1470


MODEL   3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.4929      RSQ = 0.2429          43 ITERATIONS.

  V      BETA       B
  3    0.9290     0.7685
  4    0.7430     0.6681
  8   -0.1373    -0.2232
REG. CONST. =     1.4965


MODEL   4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.4915      RSQ = 0.2416           2 ITERATIONS.

  V      BETA       B
  2    [illegible]4900     0.7464
  8   -0.0300    -0.0487
REG. CONST. =     1.3600
```

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```
MCDEL  5 M5  CRITERICN =  1

PREDICTORS =  2- 2

R = 0.4906      RSQ = 0.2407           1 ITERATICNS.

  V       BETA        B
  2     0.4906     0.7473
REG. CONST. =      1.3202

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.2474       MODEL  1
RSQ REDUCED = 0.2476       MODEL  2
DIFFERENCE = -0.0002
DFN =  1.      DFD =  3C0.      F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.2476       MODEL  2
RSQ REDUCED = 0.2429       MODEL  3
DIFFERENCE =  0.0047
DFN =  1.      DFD =  301.      F-RATIO =    1.864    P = 0.1696

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.2429       MODEL  3
RSQ RECUCED = 0.2416       MODEL  4
DIFFERENCE =  0.0014
DFN =  1.      DFD =  302.      F-RATIO =    0.551    P = 0.4653

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.2416       MODEL  4
RSQ REDUCED = 0.24C7       MODEL  5
DIFFERENCE =  0.0009
DFN =  1.      DFD =  303.      F-RATIO =    0.358    P = 0.5570
```

```
ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 2                              0980

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   310
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                    1000


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
              1.8635     1.0594     0.7800     0.2794     1.2541     0.9242     0.3299     0.7226


SIGMAS             1          2          3          4          5          6          7          8
              0.6005     0.3632     0.5620     0.5019     0.6430     0.7821     0.6415     0.4477


R MATRIX           1          2          3          4          5          6          7          8

          1   1.0000     0.1827     0.0867     0.0351     0.2049     0.1244     0.0537    -0.0076

          2   0.1827     1.0000     0.4797     0.1865     0.9576     0.5831     0.2489     0.0894

          3   0.0867     0.4797     1.0000    -0.7726     0.4607     0.9643    -0.7138     0.8600

          4   0.0351     0.1865    -0.7726     1.0000     0.1771    -0.6577     0.9793    -0.8983

          5   0.2049     0.9576     0.4607     0.1771     1.0000     0.6100     0.2585     0.0625

          6   0.1244     0.5831     0.9643    -0.6577     0.6100     1.0000    -0.6077     0.7322

          7   0.0537     0.2489    -0.7138     0.9793     0.2585    -0.6077     1.0000    -0.8300

          8  -0.0076     0.0894     0.8600    -0.8983     0.0625     0.7322    -0.8300     1.0000
```

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```
ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 3                              1100

PARAMETERS
CCL   1- 5 =      8
COL   6-10 =    306
COL  11-15 =      5
COL  16-20 =      4
CCL  21-25 =      1

DATA FORMAT = (DUMMY)                                                                     1120


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
                2.6101     1.7261     1.3562     0.3699     3.1703     2.4861     0.6842     0.7876


SIGMAS             1          2          3          4          5          6          7          8
                0.6653     0.4368     0.8042     0.7399     1.4843     1.8488     1.4789     0.4090


R MATRIX           1          2          3          4          5          6          7          8

        1       1.0000     0.4906     0.1848     0.0887     0.4954     0.2996     0.1226    -0.0389

        2       0.4906     1.0000     0.4130     0.1414     0.9908     0.6177     0.2221    -0.0183

        3       0.1848     0.4130     1.0000    -0.8432     0.4109     0.9540    -0.7802     0.8758

        4       0.0887     0.1414    -0.8432     1.0000     0.1382    -0.6724     0.9792    -0.9628

        5       0.4954     0.9908     0.4109     0.1382     1.0000     0.6257     0.2214    -0.0178

        6       0.2996     0.6177     0.9540    -0.6724     0.6257     1.0000    -0.6222     0.6983

        7       0.1226     0.2221    -0.7802     0.9792     0.2214    -0.6222     1.0000    -0.8909

        8      -0.0389    -0.0183     0.8758    -0.9628    -0.0178     0.6983    -0.8909     1.0000
```

```
ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 4                      1220

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   372
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                              1240

INTERCORRELATION ANALYSIS.

MEANS              1          2          3          4          5          6          7          8
                3.3355     2.5970     1.8745     0.7226     7.0422     5.1691     1.8732     0.7097

SIGMAS             1          2          3          4          5          6          7          8
                0.8510     0.5455     1.2866     1.1623     2.7960     4.0797     3.2464     0.4539

R MATRIX           1          2          3          4          5          6          7          8

        1       1.0000     0.6723     0.3267    -0.0462     0.6774     0.4359     0.0356     0.1311

        2       0.6723     1.0000     0.4288    -0.0054     0.9909     0.5996     0.1000     0.1268

        3       0.3267     0.4288     1.0000    -0.9057     0.4332     0.9658    -0.8406     0.9318

        4      -0.0462    -0.0054    -0.9057     1.0000    -0.0144    -0.7876     0.9774    -0.9719

        5       0.6774     0.9909     0.4332    -0.0144     1.0000     0.6103     0.0943     0.1350

        6       0.4359     0.5996     0.9658    -0.7876     0.6103     1.0000    -0.7311     0.8104

        7       0.0356     0.1000    -0.8406     0.9774     0.0943    -0.7311     1.0000    -0.9021

        8       0.1311     0.1268     0.9318    -0.9719     0.1350     0.8104    -0.9021     1.0000
```

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```
MODEL   1 M1   CRITERION =  1

PREDICTORS =   3- 4  6- 8

R = 0.6791      RSQ = 0.4612            37 ITERATIONS.

  V       BETA         B
  3     0.0501      0.0331
  4     0.0         0.0
  6     0.9331      0.1946
  7     0.8185      0.2146
  8     0.0682      0.1278
REG. CONST. =       1.7747


MODEL   2 M2   CRITERION =  1

PREDICTORS =   3- 5  8- 8

R = 0.6786      RSQ = 0.4604             2 ITERATIONS.

  V       BETA         B
  3     0.0         0.0
  4     0.0         0.0
  5     0.6719      0.2045
  8     0.0403      0.0756
REG. CONST. =       1.8416


MODEL   3 M3   CRITERION =  1

PREDICTORS =   3- 4  8- 8

R = 0.6738      RSQ = 0.4540            20 ITERATIONS.

  V       BETA         B
  3     1.5751      1.0418
  4     1.4154      1.0363
  8     0.0360      0.0674
REG. CONST. =       0.5861


MODEL   4 M4   CRITERION =  1

PREDICTORS =   2- 2  8- 8

R = 0.6738      RSQ = 0.4541             2 ITERATIONS.

  V       BETA         B
  2     0.6664      1.0395
  8     0.0466      0.0873
REG. CONST. =       0.5739
```

```
80.71




MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6723     RSQ = 0.4519          1 ITERATIONS.

  V      BETA       B
  2    0.6723    1.0487
REG. CONST. =    0.6119


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.4612     MODEL  1
RSQ REDUCED = 0.4604     MODEL  2
DIFFERENCE =  0.0007
DFN =  1.     DFD =  366.     F-RATIO =   0.501    P = 0.4867


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.4604     MODEL  2
RSQ REDUCED = 0.4540     MODEL  3
DIFFERENCE =  0.0064
DFN =  1.     DFD =  367.     F-RATIO =   4.372    P = 0.0349


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.4540     MODEL  3
RSQ REDUCED = 0.4541     MODEL  4
DIFFERENCE = -0.0001
DFN =  1.     DFD =  368.     F-RATIO =   0.0      P = 1.0000


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.4541     MODEL  4
RSQ REDUCED = 0.4519     MODEL  5
DIFFERENCE =  0.0021
DFN =  1.     DFD =  369.     F-RATIO =   1.442    P = 0.2285
```

```
ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 5                                       1340

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    366
CCL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                          1360


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
              4.1123     3.2432     2.1639     1.0792    11.0470     7.5355     3.5116     0.6530


SIGMAS           1          2          3          4          5          6          7          8
              0.5677     0.7273     1.6890     1.5319     4.5299     6.6777     5.3713     0.4760


R MATRIX         1          2          3          4          5          6          7          8

        1     1.0000     0.7656     0.3603    -0.0338     0.7767     0.4870     0.0496     0.1398

        2     0.7656     1.0000     0.4213     0.0103     0.9892     0.5766     0.1174     0.1332

        3     0.3603     0.4213     1.0000    -0.9026     0.4357     0.9693    -0.8376     0.9339

        4    -0.0338     0.0103    -0.9026     1.0000    -0.0108    -0.7950     0.9792    -0.9664

        5     0.7767     0.9892     0.4357    -0.0108     1.0000     0.5994     0.0982     0.1492

        6     0.4870     0.5766     0.9693    -0.7950     0.5994     1.0000    -0.7377     0.8226

        7     0.0496     0.1174    -0.8376     0.9792     0.0982    -0.7377     1.0000    -0.8969

        8     0.1398     0.1332     0.9339    -0.9664     0.1492     0.8226    -0.8969     1.0000
```

D-60

90.71

```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.7772       RSQ = 0.6040           2 ITERATIONS.

  V        BETA          B
  3     0.0          0.0
  4     0.0          0.0
  6     1.1489       0.1665
  7     0.8972       0.1616
  8     0.0          0.0
REG. CONST. =        2.2901


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.7771       RSQ = 0.6039           2 ITERATIONS.

  V        BETA          B
  3     0.0          0.0
  4    -0.0254      -0.0160
  5     0.7764       0.1659
  8     0.0          0.0
REG. CONST. =        2.2973


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.7668       RSQ = 0.5879           2 ITERATIONS.

  V        BETA          B
  3     1.7791       1.0193
  4     1.5720       0.9930
  8     0.0          0.0
REG. CONST. =        0.8349


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.7666       RSQ = 0.5876           2 ITERATIONS.

  V        BETA          B
  2     0.7605       1.0119
  8     0.0384       0.0781
REG. CONST. =        0.7794
```

80.71

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7656      RSQ = 0.5862            1 ITERATIONS.

  V      BETA        B
  2    0.7656     1.0187
REG. CONST. =     0.8083


F-TEST  1    MODEL 1 VS MODEL 2
RSQ FULL =      0.6040      MODEL  1
RSQ REDUCED = 0.6039        MODEL  2
DIFFERENCE =  0.0001
DFN =  1.       DFD =  360.      F-RATIO =     0.067    P = 0.7914


F-TEST  2    MODEL 2 VS MODEL 3
RSQ FULL =      0.6039      MODEL  2
RSQ REDUCED = 0.5879        MODEL  3
DIFFERENCE =  0.0160
DFN =  1.       DFD =  361.      F-RATIO =    14.614    P = 0.0004


F-TEST  3    MODEL 3 VS MODEL 4
RSQ FULL =      0.5879      MODEL  3
RSQ REDUCED = 0.5876        MODEL  4
DIFFERENCE =  0.0003
DFN =  1.       DFD =  362.      F-RATIO =     0.251    P = 0.6229


F-TEST  4    MODEL 4 VS MODEL 5
RSQ FULL =      0.5876      MODEL  4
RSQ REDUCED = 0.5862        MODEL  5
DIFFERENCE =  0.0014
DFN =  1.       DFD =  363.      F-RATIO =     1.276    P = 0.2581
```

```
ANALYSIS 2 -- TITLE I VS FORMER TITLE I -- GRADE 6                      1460

PARAMETERS
COL   1- 5 =      8
CCL   6-10 =    338
COL  11-15 =      5
CCL  16-20 =      4
CCL  21-25 =      1
                                                                              1480
DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS            1         2         3         4         5         6         7         8
             4.8769    4.0246    2.2364    1.7882   16.9018    9.4116    7.4902    0.5562


SIGMAS           1         2         3         4         5         6         7         8
             0.9967    0.8395    2.1000    2.0719    6.5152    9.8101    9.3380    0.4968


R MATRIX         1         2         3         4         5         6         7         8

       1     1.0000    0.7644    0.1541    0.1535    0.7642    0.2746    0.2447   -0.0231

       2     0.7644    1.0000    0.2332    0.1688    0.9907    0.3900    0.2815   -0.0051

       3     0.1541    0.2332    1.0000   -0.9191    0.2405    0.9728   -0.8542    0.9512

       4     0.1535    0.1688   -0.9191    1.0000    0.1577   -0.8280    0.9799   -0.9662

       5     0.7642    0.9907    0.2405    0.1577    1.0000    0.4028    0.2746    0.0033

       6     0.2746    0.3900    0.9728   -0.8280    0.4028    1.0000   -0.7695    0.8569

       7     0.2447    0.2815   -0.8542    0.9799    0.2746   -0.7695    1.0000   -0.8980

       8    -0.0231   -0.0051    0.9512   -0.9662    0.0033    0.8569   -0.8980    1.0000
```

D-63

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80.71

```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.7654        RSQ = 0.5858            17 ITERATIONS.

   V        BETA         B
   3     0.0          0.0
   4     0.0          0.0
   6     1.1188       0.1137
   7     1.1426       0.1219
   8     0.0442       0.0886
REG. CONST. =         2.8445


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.7658        RSQ = 0.5865            17 ITERATIONS.

   V        BETA         B
   3     0.0219       0.0104
   4     0.2234       0.1074
   5     0.7233       0.1106
   8     0.1719       0.3449
REG. CONST. =         2.5995


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.7651        RSQ = 0.5854            26 ITERATIONS.

   V        BETA         B
   3     1.8818       0.8931
   4     1.9315       0.9291
   8     0.0500       0.1003
REG. CONST. =         1.1625


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.7647        RSQ = 0.5847             2 ITERATIONS.

   V        BETA         B
   2     0.7643       0.9074
   8    -0.0192      -0.0385
REG. CONST. =         1.2464
```

```
80.71




MODEL   5 M5  CRITERION =  1

PREDICTORS =   2- 2

R = 0.7644      RSQ = 0.5844           1 ITERATIONS.

  V       BETA       B
  2    0.7644     0.9075
REG. CONST. =     1.2245


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.5858      MODEL  1
RSQ REDUCED = 0.5865      MODEL  2
DIFFERENCE = -0.0007
DFN =  1.     DFD =  332.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.5865      MODEL  2
RSQ REDUCED = 0.5854      MODEL  3
DIFFERENCE =  0.0011
DFN =  1.     DFD =  333.     F-RATIO =    0.862    P = 0.3563

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.5854      MODEL  3
RSQ REDUCED = 0.5847      MODEL  4
DIFFERENCE =  0.0007
DFN =  1.     DFD =  334.     F-RATIO =    0.529    P = 0.4745

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.5847      MODEL  4
RSQ REDUCED = 0.5844      MODEL  5
DIFFERENCE =  0.0004
DFN =  1.     DFD =  335.     F-RATIO =    0.297    P = 0.5930
```

Attachment D-3
(Page 1 of 2)

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

May 27, 1981

TO: Belia Greek and Ann Cunningham

FROM: David Doss

SUBJECT: Program Support and Achievement Gains

You may recall that I included in the Title I Evaluation Design a question which reads as follows:

> Was there a relationship between characteristics (cooperation in setting up the program, etc) of the principals of Title I schools, as perceived by the Title I reading coordinators, and the effectiveness of their Title I programs in terms of achievement gains?

The attached page lists the 22 Title I regular schools. Use the scale to indicate, overall, how much support each principal gave the Title I program at his/her school. I would like to have one common set of results in order to remove the problem of "rater bias."

Also, these ratings will be treated confidentially. They will not be reported in any way that the score for any one principal can be identified.

Approved: Freda M Holley
Director of Office of Research and Evaluation

DD:lfs

cc: Lee Laws
Oscar Cantu

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MEASURE OF PROGRAM SUPPORT

Using the definition and scale below, show how much support each principal gave the Title I Program. Work together to establish a consensus before giving the rating.

DEFINITION

Support for Campus Title I Program: knowledgeable about the Title I Reading Program, works with teachers to minimize scheduling problems, takes an active role in the planning and implementation of the school's Title I Program, is aware of the restrictions of the Title I Program, works actively to insure that the program is in compliance, does not impose unnecessary restrictions, etc.

SCALE

1	2	3	4	5
Very Low	Low	Average	High	Very High

School	Support
Blackshear	
Brown	
Bryker Woods	
Campbell	
Casis	
Dawson	
Govalle	
Harris	
Maplewood	
Mathews	
Metz	
Norman	
Oak Springs	
Ortega	
Ridgetop	
Rosedale	
Rosewood	
Sanchez	
Sims	
Walnut Creek	
Zavala	
Zilker	

Attachment D-4
(Page 1 of 2)

MODELS USED TO DETERMINE THE RELATIONSHIP BETWEEN PRINCIPAL SUPPORT AND ACHIEVEMENT

Model 1:

$$Y = a_0U + a_1X^{(3)} + a_2X^{(4)} + a_3X^{(5)} + a_4X^{(6)} + a_5X^{(7)} + a_6X^{(9)} + a_7X^{(10)} + a_8X^{(11)} + a_9X^{(12)} + a_{10}X^{(13)} + a_{11}X^{(14)} + a_{12}X^{(15)} + a_{13}X^{(16)} + a_{14}X^{(17)} + a_{15}X^{(18)} + E$$

Model 2:

$$Y = a_{16}U + a_{17}X^{(3)} + a_{18}X^{(4)} + a_{19}X^{(5)} + a_{20}X^{(6)} + a_{21}X^{(7)} + a_{22}X^{(8)} + a_{23}X^{(14)} + a_{24}X^{(15)} + a_{25}X^{(16)} + a_{26}X^{(17)} + a_{27}X^{(18)} + E$$

Model 3:

$$Y = a_{28}U + a_{29}X^{(2)} + a_{30}X^{(19)} + a_{31}X^{(20)} + E$$

Model 4:

$$Y = a_{32}U + a_{33}X^{(2)} + E$$

Model 5:

$$Y = a_{34}U + a_{35}X^{(2)} + a_{36}X^{(19)} + E$$

Where,

Y = posttest

U = unit vector

$X^{(2)}$ = pretest

$X^{(3)}$ = pretest if principal given a rating of 1; 0, otherwise

$X^{(4)}$ = pretest if principal given a rating of 2; 0, otherwise

$X^{(5)}$ = pretest if principal given a rating of 3; 0, otherwise

$X^{(6)}$ = pretest if principal given a rating of 4; 0, otherwise

$X^{(7)}$ = pretest if principal given a rating of 5; 0, otherwise

$X^{(8)}$ = variable $X^{(2)}$ squared

$X^{(9)}$ = variable $X^{(3)}$ squared

$X^{(10)}$ = variable $X^{(4)}$ squared

$X^{(11)}$ = variable $X^{(5)}$ squared

$X^{(12)}$ = variable $X^{(6)}$ squared

$X^{(13)}$ = variable $X^{(7)}$ squared

$X^{(14)}$ = 1 if principal's rating was 1: 0, otherwise

$X^{(15)}$ = 1 if principal's rating was 2; 0, otherwise

$X^{(16)}$ = 1 if principal's rating was 3; 0, otherwise

$X^{(17)}$ = 1 if principal's rating was 4; 0, otherwise

$X^{(18)}$ = 1 if principal's rating was 5; 0, otherwise

$X^{(19)}$ = principal's rating

$X^{(20)}$ = direct product--pretest times principal's rating

The pretest is the student's April, 1980, ITBS Average Reading Grade Equivalent score except at grade 1 where MRT Pre-Reading Composite raw scores were used.

The ratings of the principals' support for the program were made using the following scale.

1 = Very Low, 2 = Low, 3 = Average, 4 = High, 5 = Very High

REGRESSION ANALYSES DETERMINING THE RELATIONSHIP BETWEEN PROGRAM SUPPORT AND ACHIEVEMENT GAINS AT GRADES 2-6.

```
     *** OUTPUT FROM PROGRAM REGRAN ***

COOPERATION AND GAIN -- 4-80/4-81 ITBS AVG.READING TOTAL G.E. -- GRADE 2

PARAMETERS
COL   1- 5 =    20
COL   6-10 =   312
COL  11-15 =     5
COL  16-20 =     5
COL  21-25 =     1

DATA FORMAT = (DUMMY)                                                0710

INTERCORRELATION ANALYSIS.

MEANS          1        2        3        4        5        6        7        8        9       10
            1.8782   1.0763   0.0      0.2324   0.0817   0.6096   0.1526   1.2697   0.0      0.2695

MEANS         11       12       13       14       15       16       17       18       19       20
            0.1011   0.7243   0.1749   0.0      0.2179   0.0833   0.5513   0.1474   3.6282   3.9112

SIGMAS         1        2        3        4        5        6        7        8        9       10
            0.6518   0.3337  -0.0      0.4642   0.3072   0.5939   0.3894   0.6226  -0.0      0.5813

SIGMAS        11       12       13       14       15       16       17       18       19       20
            0.4073   0.7863   0.4897  -0.0      0.4129   0.2764   0.4974   0.3545   0.9820   1.6284

R MATRIX       1        2        3        4        5        6        7        8        9       10
     1      1.0000   0.2535   ***     -0.0397   0.0867   0.0979   0.0468   0.2633   ***     -0.0166
     2      0.2535   1.0000   0.0      0.1250   0.1277   0.3440   0.0826   0.9659   0.0      0.1915
     3      ***      0.0      1.0000   0.0      0.0      0.0      0.0      0.0      0.0      0.0
     4     -0.0397   0.1250   0.0      1.0000  -0.1332  -0.5139  -0.1961   0.1111   0.0      0.9805
     5      0.0867   0.1277   0.0     -0.1332   1.0000  -0.2731  -0.1042   0.1401   0.0     -0.1233
     6      0.0979   0.3440   0.0     -0.5139  -0.2731   1.0000  -0.4022   0.3310   0.0     -0.4759
     7      0.0468   0.0826   0.0     -0.1961  -0.1042  -0.4022   1.0000   0.0801   0.0     -0.1816
     8      0.2633   0.9659   0.0      0.1111   0.1401   0.3310   0.0801   1.0000   0.0      0.1888
     9      ***      0.0      0.0      0.0      0.0      0.0      0.0      0.0      1.0000   0.0
    10     -0.0166   0.1915   0.0      0.9805  -0.1233  -0.4759  -0.1816   0.1888   0.0      1.0000
    11      0.1064   0.1604   0.0     -0.1242   0.9774  -0.2547  -0.0972   0.1885   0.0     -0.1150
    12      0.1206   0.4454   0.0     -0.4611  -0.2451   0.9742  -0.3609   0.4559   0.0     -0.4270
    13      0.0723   0.1521   0.0     -0.1788  -0.0950  -0.3667   0.9777   0.1584   0.0     -0.1656
    14      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    15     -0.0705  -0.0160   0.0      0.9483  -0.1404  -0.5419  -0.2068  -0.0283   0.0      0.8781
```

80.71

16	0.0243	-0.0863	0.0	-0.1509	0.8824	-0.3095	-0.1181	-0.0276	0.0	-0.1398
17	0.0420	0.0981	0.0	-0.5549	-0.2949	0.9261	-0.4342	0.0785	0.0	-0.5138
18	0.0042	-0.0517	0.0	-0.2082	-0.1106	-0.4269	0.9421	-0.0556	0.0	-0.1928
19	0.0539	0.0191	0.0	-0.8300	-0.1702	0.3887	0.5473	0.0115	0.0	-0.7686
20	0.2252	0.7441	0.0	-0.4894	-0.0330	0.5303	0.4383	0.7212	0.0	-0.4222

R MATRIX	11	12	13	14	15	16	17	18	19	20
1	0.1064	0.1206	0.0723	0.0	-0.0705	0.0243	0.0420	0.0042	0.0539	0.2252
2	0.1604	0.4454	0.1521	0.0	-0.0160	-0.0863	0.0981	-0.0517	0.0191	0.7441
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	-0.1242	-0.4611	-0.1788	0.0	0.9483	-0.1509	-0.5549	-0.2082	-0.8300	-0.4894
5	0.9774	-0.2451	-0.0950	0.0	-0.1404	0.8824	-0.2949	-0.1106	-0.1702	-0.0330
6	-0.2547	0.9742	-0.3667	0.0	-0.5419	-0.3095	0.9261	-0.4269	0.3887	0.5303
7	-0.0972	-0.3609	0.9777	0.0	-0.2068	-0.1181	-0.4342	0.9421	0.5473	0.4383
8	0.1885	0.4559	0.1584	0.0	-0.0283	-0.0276	0.0785	-0.0556	0.0115	0.7212
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	-0.1150	-0.4270	-0.1656	0.0	0.8781	-0.1398	-0.5138	-0.1928	-0.7686	-0.4222
11	1.0000	-0.2285	-0.0886	0.0	-0.1310	0.8229	-0.2750	-0.1032	-0.1587	-0.0054
12	-0.2285	1.0000	-0.3291	0.0	-0.4863	-0.2777	0.8311	-0.3831	0.3488	0.5879
13	-0.0886	-0.3291	1.0000	0.0	-0.1886	-0.1077	-0.3959	0.8590	0.4990	0.4784
14	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	0.0	0.0	0.0
15	-0.1310	-0.4863	-0.1886	0.0	1.0000	-0.1592	-0.5851	-0.2195	-0.8753	-0.5767
16	0.8229	-0.2777	-0.1077	0.0	-0.1592	1.0000	-0.3342	-0.1254	-0.1929	-0.1794
17	-0.2750	0.8311	-0.3959	0.0	-0.5851	-0.3342	1.0000	-0.4609	0.4197	0.3485
18	-0.1032	-0.3831	0.8590	0.0	-0.2195	-0.1254	-0.4609	1.0000	0.5809	0.3225
19	-0.1587	0.3488	0.4990	0.0	-0.8753	-0.1929	0.4197	0.5809	1.0000	0.6518
20	-0.0054	0.5879	0.4784	0.0	-0.5767	-0.1794	0.3485	0.3225	0.6518	1.0000

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =   4- 7 10-13 15-18

R = 0.2813       RSQ = 0.0792              34 ITERATIONS.

  V        BETA         B
  4     -0.0042     -0.0059
  5     -0.0182     -0.0387
  6      0.0190      0.0209
  7      0.0         0.0
 10      0.1926      0.2159
 11      0.2907      0.4651
 12      0.2694      0.2233
 13      0.2519      0.3352
 15     -0.0063     -0.0100
 16     -0.0593     -0.1397
 17      0.0328      0.0430
 18     -0.0285     -0.0524
REG. CONST. =        1.5423


MODEL   2 M2   CRITERION =  1

PREDICTORS =   4- 8 15-18

R = 0.2791       RSQ = 0.0779              35 ITERATIONS.

  V        BETA         B
  4     -0.0996     -0.1399
  5      0.0966      0.2048
  6     -0.0597     -0.0656
  7      0.0321      0.0537
  8      0.2723      0.2851
 15      0.0         0.0
 16     -0.0851     -0.2006
 17      0.0116      0.0151
 18     -0.0501     -0.0921
REG. CONST. =        1.5857


MODEL   3 M3   CRITERION =  1

PREDICTORS =   2- 2 19-20

R = 0.2594       RSQ = 0.0673               6 ITERATIONS.

  V        BETA         B
  2      0.1843      0.3600
 19     -0.0073     -0.0049
 20      0.0931      0.0372
REG. CONST. =        1.3626
```

```
MODEL   4 M4  CRITERION =  1

PREDICTORS =  2- 2

R = 0.2535      RSQ = 0.0642          1 ITERATIONS.

  V       BETA       B
  2     0.2535     0.4950
REG. CONST. =      1.3454


MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2 19-19

R = 0.2582      RSQ = 0.0667          2 ITERATIONS.

  V       BETA       B
  2     0.2525     0.4932
 19     0.0491     0.0326
REG. CONST. =      1.2291

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.0792      MODEL  1
RSQ REDUCED = 0.0779      MODEL  2
DIFFERENCE =  0.0013
DFN =  3.      DFD =  300.     F-RATIO =    0.136    P = 0.9379

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.0779      MODEL  2
RSQ REDUCED = 0.0673      MODEL  3
DIFFERENCE =  0.0106
DFN =  5.      DFD =  303.     F-RATIO =    0.697    P = 0.6283

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.0673      MODEL  3
RSQ REDUCED = 0.0642      MODEL  4
DIFFERENCE =  0.0031
DFN =  2.      DFD =  308.     F-RATIO =    0.504    P = 0.6105

F-TEST  4   MODEL 3 VS MODEL 5
RSQ FULL =      0.0673      MODEL  3
RSQ REDUCED = 0.0667      MODEL  5
DIFFERENCE =  0.0006
DFN =  1.      DFD =  308.     F-RATIO =    0.211    P = 0.6514

F-TEST  5   MODEL 5 VS MODEL 4
RSQ FULL =      0.0667      MODEL  5
RSQ REDUCED = 0.0642      MODEL  4
DIFFERENCE =  0.0024
DFN =  1.      DFD =  309.     F-RATIO =    0.799    P = 0.3756
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

COOPERATION AND GAIN -- 4-80/4-81 ITBS AVG.READING TOTAL G.E. -- GRADE 3

PARAMETERS
CCL   1- 5 =     20
CCL   6-10 =    357
CCL  11-15 =      5
CCL  16-20 =      5
CCL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.

MEANS            1          2          3           4          5          6          7          8          9          10
            2.6611     1.7490     0.0         0.4465     0.1933     0.9532     0.1560     3.2617     0.0         0.8141

MEANS           11         12         13          14         15         16         17         18         19          20
            0.3784     1.8095     0.2597      0.0         0.2633     0.1036     0.5322     0.1008     3.4706      6.0658


SIGMAS           1          2          3           4          5          6          7          8          9          10
            0.6662     0.4501    -0.0         0.7840     0.5840     0.9491     0.4851     1.5402    -0.0         1.5818

SIGMAS          11         12         13          14         15         16         17         18         19          20
            1.2074     2.0348     0.8737     -0.0         0.4404     0.3048     0.4990     0.3011     0.9886      2.3048

R MATRIX         1          2          3           4          5          6          7          8          9          10

      1     1.0000     0.5313     ***         0.1432     0.1704     0.0615    -0.0640     0.5338     ***         0.2180

      2     0.5313     1.0000     0.0         0.0939     0.1536     0.3331    -0.0604     0.9885     0.0         0.2065

      3     ***        0.0        1.0000      0.0        0.0        0.0        0.0        0.0        0.0         0.0

      4     0.1432     0.0939     0.0         1.0000    -0.1885    -0.5719    -0.1832     0.0948     0.0         0.9736

      5     0.1704     0.1536     0.0        -0.1885     1.0000    -0.3324    -0.1064     0.1528     0.0        -0.1703

      6     0.0615     0.3331     0.0        -0.5719    -0.3324     1.0000    -0.3230     0.3339     0.0        -0.5169

      7    -0.0640    -0.0604     0.0        -0.1832    -0.1064    -0.3230     1.0000    -0.0734     0.0        -0.1655

      8     0.5338     0.9885     0.0         0.0948     0.1528     0.3339    -0.0734     1.0000     0.0         0.2091

      9     ***        0.0        0.0         0.0        0.0        0.0        0.0        0.0        1.0000      0.0

     10     0.2180     0.2065     0.0         0.9736    -0.1703    -0.5169    -0.1655     0.2091     0.0         1.0000

     11     0.1848     0.1950     0.0        -0.1785     0.9853    -0.3148    -0.1008     0.1971     0.0        -0.1613

     12     0.1411     0.4721     0.0        -0.5064    -0.2943     0.9695    -0.2860     0.4826     0.0        -0.4577

     13    -0.0377    -0.0005     0.0        -0.1693    -0.0984    -0.2985     0.9756    -0.0121     0.0        -0.1530

     14     0.0        0.0        0.0         0.0        0.0        0.0        0.0        0.0        0.0         0.0

     15     0.0271    -0.0708     0.0         0.9526    -0.1070    -0.6006
```

80.71

0710

```
   17        -0.0531    0.0996    0.0       -0.6074    -0.3530    0.9416    -0.3430    0.0958    0.0       -0.5490
   18        -0.0977   -0.1501    0.0       -0.1907    -0.1108   -0.3363     0.9604   -0.1492    0.0       -0.1724
   19        -0.0985   -0.0097    0.0       -0.8471    -0.1575    0.5378     0.4975   -0.0132    0.0       -0.7655
   20         0.2610    0.6657    0.0       -0.5978    -0.0276    0.6655     0.3149    0.6535    0.0       -0.4927

R MATRIX      11        12        13         14         15         16         17         18         19         20
    1         0.1848    0.1411   -0.0377    0.0         0.0273    0.1440    -0.0531    -0.0977    -0.0985     0.2610
    2         0.1950    0.4721   -0.0005    0.0        -0.0708    0.0875     0.0996    -0.1501    -0.0097     0.6657
    3         0.0       0.0       0.0       0.0         0.0       0.0        0.0        0.0        0.0        0.0
    4        -0.1785   -0.5064   -0.1693    0.0         0.9526   -0.1936    -0.6074    -0.1907    -0.8471    -0.5978
    5         0.9853   -0.2943   -0.0984    0.0        -0.1979    0.9733    -0.3530    -0.1108    -0.1575    -0.0276
    6        -0.3148    0.9695   -0.2985    0.0        -0.6004   -0.3415     0.9416    -0.3363     0.5378     0.6655
    7        -0.1008   -0.2860    0.9756    0.0        -0.1923   -0.1094    -0.3430     0.9604     0.4975     0.3149
    8         0.1971    0.4826   -0.0121    0.0        -0.0660    0.0860     0.0958    -0.1492    -0.0132     0.6535
    9         0.0       0.0       0.0       0.0         0.0       0.0        0.0        0.0        0.0        0.0
   10        -0.1613   -0.4577   -0.1530    0.0         0.8609   -0.1750    -0.5490    -0.1724    -0.7655    -0.4927
   11         1.0000   -0.2787   -0.0932    0.0        -0.1874    0.9218    -0.3343    -0.1050    -0.1492     0.0029
   12        -0.2787    1.0000   -0.2643    0.0        -0.5317   -0.3024     0.8337    -0.2978     0.4762     0.7278
   13        -0.0932   -0.2643    1.0000    0.0        -0.1777   -0.1011    -0.3171     0.8876     0.4598     0.3451
   14         0.0       0.0       0.0       1.0000      0.0       0.0        0.0        0.0        0.0        0.0
   15        -0.1874   -0.5317   -0.1777    0.0         1.0000   -0.2033    -0.6377    -0.2002    -0.8893    -0.6937
   16         0.9218   -0.3024   -0.1011    0.0        -0.2033    1.0000    -0.3627    -0.1139    -0.1619    -0.0695
   17        -0.3343    0.8337   -0.3171    0.0        -0.6377   -0.3627     1.0000    -0.3572     0.5712     0.5083
   18        -0.1050   -0.2978    0.8876    0.0        -0.2002   -0.1139    -0.3572     1.0000     0.5181     0.2427
   19        -0.1492    0.4762    0.4598    0.0        -0.8893   -0.1619     0.5712     0.5181     1.0000     0.7134
   20         0.0029    0.7278    0.3451    0.0        -0.6937   -0.0695     0.5083     0.2427     0.7134     1.0000
```

```
30.71
    MODEL   1 M1   CRITERION =   1

    PREDICTORS =   4- 7 10-13 15-18

    R = 0.5632      RSQ = 0.3172              65 ITERATIONS.

      V        BETA        B
      4      0.0071     0.0060
      5      0.0        0.0
      6      0.0        0.0
      7      0.0        0.0
     10      0.7563     0.3185
     11      0.3452     0.1905
     12      0.6041     0.1978
     13      0.2188     0.1668
     15     -0.3652    -0.5524
     16      0.0        0.0
     17     -0.2168    -0.2895
     18     -0.0919    -0.2032
    REG. CONST. =       2.2458


    MODEL   2 M2   CRITERION =   1

    PREDICTORS =   4- 8 15-18

    R = 0.5635      RSQ = 0.3175              34 ITERATIONS.

      V        BETA        B
      4      0.2103     0.1787
      5     -0.1763    -0.2011
      6     -0.3298    -0.2315
      7     -0.1654    -0.2272
      8      0.6057     0.2620
     15     -0.3503    -0.5299
     16      0.1154     0.2521
     17      0.0334     0.0446
     18      0.0150     0.0333
    REG. CONST. =       2.1081


    MODEL   3 M3   CRITERION =   1

    PREDICTORS =   2- 2 19-20

    R = 0.5547      RSQ = 0.3077              15 ITERATIONS.

      V        BETA        B
      2      0.9618     1.4235
     19      0.3675     0.2476
     20     -0.6401    -0.1850
    REG. CONST. =       0.4344
```

```
30.71
   MODEL   4 M4  CRITERION =  1

   PREDICTORS =  2- 2

   R = 0.5313     RSQ = 0.2822          1 ITERATIONS.

     V      BETA       B
     2    0.5313    0.7863
   REG. CONST. =    1.2859


   MODEL   5 M5  CRITERION =  1

   PREDICTORS =  2- 2 19-19

   R = 0.5394     RSQ = 0.2910          2 ITERATIONS.

     V      BETA       B
     2    0.5304    0.7849
    19   -0.0934   -0.0629
   REG. CONST. =    1.5066


   F-TEST  1   MODEL 1 VS MODEL 2
   RSQ FULL =     0.3172      MODEL  1
   RSQ REDUCED = 0.3175      MODEL  2
   DIFFERENCE = -0.0003
   DFN =  3.      DFD =  345.      F-RATIO =    0.0      P = 1.0000


   F-TEST  2   MODEL 2 VS MODEL 3
   RSQ FULL =     0.3175      MODEL  2
   RSQ REDUCED = 0.3077      MODEL  3
   DIFFERENCE =  0.0098
   DFN =  5.      DFD =  348.      F-RATIO =    0.996     P = 0.4211


   F-TEST  3   MODEL 3 VS MODEL 4
   RSQ FULL =     0.3077      MODEL  3
   RSQ REDUCED = 0.2822      MODEL  4
   DIFFERENCE =  0.0255
   DFN =  2.      DFD =  353.      F-RATIO =    6.500     P = 0.0021


   F-TEST  4   MODEL 3 VS MODEL 5
   RSQ FULL =     0.3077      MODEL  3
   RSQ REDUCED = 0.2910      MODEL  5
   DIFFERENCE =  0.0168
   DFN =  1.      DFD =  353.      F-RATIO =    8.555     P = 0.0040


   F-TEST  5   MODEL 5 VS MODEL 4
   RSQ FULL =     0.2910      MODEL  5
   RSQ REDUCED = 0.2822      MODEL  4
   DIFFERENCE =  0.0087
   DFN =  1.      DFD =  354.      F-RATIO =    4.352     P = 0.0353
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

COOPERATION AND GAIN -- 4-80/4-81 ITBS AVG.READING TOTAL G.E. -- GRADE 4

PARAMETERS
COL  1- 5 =     20
COL  6-10 =    345
COL 11-15 =      5
COL 16-20 =      5
COL 21-25 =      1

DATA FORMAT = (DUMMY)

INTERCORRELATION ANALYSIS.

MEANS             1         2         3         4         5         6         7         8         9        10
             3.4614    2.6255    0.7272    0.3728    0.6499    0.8168    0.0588    7.2235    1.9390    0.9815

MEANS            11        12        13        14        15        16        17        18        19        20
             1.8864    2.2642    0.1523    0.2870    0.1507    0.2319    0.3072    0.0232    2.6290    6.9838


SIGMAS            1         2         3         4         5         6         7         8         9        10
             0.8476    0.5746    1.1875    0.9179    1.2100    1.2637    0.3858    2.9077    3.4217    2.6274

SIGMAS           11        12        13        14        15        16        17        18        19        20
             3.6880    3.7328    1.0274    0.4523    0.3578    0.4220    0.4614    0.1505    1.2494    3.7557


R MATRIX          1         2         3         4         5         6         7         8         9        10

      1      1.0000    0.6915    0.0196   -0.0162    0.1807    0.1399   -0.0169    0.6930    0.1029    0.0561

      2      0.6915    1.0000    0.0435    0.0054    0.2591    0.1648   -0.0098    0.9905    0.1500    0.0945

      3      0.0196    0.0435    1.0000   -0.2487   -0.3289   -0.3958   -0.0934    0.0384    0.9785   -0.2288

      4     -0.0162    0.0054   -0.2487    1.0000   -0.2181   -0.2625   -0.0619    0.0101   -0.2301    0.9760

      5      0.1807    0.2591   -0.3289   -0.2181    1.0000   -0.3471   -0.0819    0.2654   -0.3044   -0.2006

      6      0.1399    0.1648   -0.3958   -0.2625   -0.3471    1.0000   -0.0986    0.1591   -0.3663   -0.2414

      7     -0.0169   -0.0098   -0.0934   -0.0619   -0.0819   -0.0986    1.0000   -0.0207   -0.0864   -0.0570

      8      0.6930    0.9905    0.0384    0.0101    0.2654    0.1591   -0.0207    1.0000    0.1469    0.1017

      9      0.1029    0.1500    0.9785   -0.2301   -0.3044   -0.3663   -0.0864    0.1469    1.0000   -0.2117

     10      0.0561    0.0945   -0.2288    0.9760   -0.2006   -0.2414   -0.0570    0.1017   -0.2117    1.0000

     11      0.2161    0.3186   -0.3132   -0.2077    0.9865   -0.3306   -0.0780    0.3295   -0.2899   -0.1911

     12      0.1956    0.2519   -0.3715   -0.2463   -0.3258    0.9827   -0.0925    0.2492   -0.3437   -0.2266

     13     -0.0115    0.0032   -0.0908   -0.0602   -0.0796   -0.0958    0.9911   -0.0072   -0.0840   -0.0554

     14     -0.0876   -0.1006    0.9654   -0.2576   -0.3407   -0.4100   -0.0967   -0.1017    0.8933   -0.2370

     15     -0.1089   -0.1118   -0.2580    0.9639   -0.2263   -0.2723   -0.0642   -0.1031   -0.2387    0.8867
```

0710

80.71

D-80

```
      16        0.1287    0.1692   -0.3365   -0.2231    0.9775   -0.3551   -0.0838    0.1722   -0.3114   -0.2053
      17        0.0599    0.0382   -0.4079   -0.2704   -0.3577    0.9705   -0.1016    0.0334   -0.3774   -0.2488
      18       -0.0225   -0.0236   -0.0944   -0.0626   -0.0827   -0.0996    0.9898   -0.0347   -0.0873   -0.0576
      19        0.1113    0.1133   -0.7985   -0.2044    0.1595    0.7093    0.2894    0.1072   -0.7389   -0.1881
      20        0.3525    0.4837   -0.7040   -0.1857    0.2466    0.7064    0.2420    0.4771   -0.6347   -0.1434

R MATRIX          11        12        13        14        15        16        17        18        19        20
       1        0.2161    0.1956   -0.0115   -0.0876   -0.1089    0.1287    0.0599   -0.0225    0.1113    0.3525
       2        0.3186    0.2519    0.0032   -0.1006   -0.1118    0.1692    0.0382   -0.0236    0.1133    0.4837
       3       -0.3132   -0.3715   -0.0908    0.9654   -0.2580   -0.3365   -0.4079   -0.0944   -0.7985   -0.7040
       4       -0.2077   -0.2463   -0.0602   -0.2576    0.9639   -0.2231   -0.2704   -0.0626   -0.2044   -0.1857
       5        0.9865   -0.3258   -0.0796   -0.3407   -0.2263    0.9775   -0.3577   -0.0827    0.1595    0.2466
       6       -0.3306    0.9827   -0.0958   -0.4100   -0.2723   -0.3551    0.9705   -0.0996    0.7093    0.7064
       7       -0.0780   -0.0925    0.9911   -0.0967   -0.0642   -0.0838   -0.1016    0.9898    0.2894    0.2420
       8        0.3295    0.2492   -0.0072   -0.1017   -0.1031    0.1722    0.0334   -0.0347    0.1072    0.4771
       9       -0.2899   -0.3437   -0.0840    0.8933   -0.2387   -0.3114   -0.3774   -0.0873   -0.7389   -0.6347
      10       -0.1911   -0.2266   -0.0554   -0.2370    0.8867   -0.2053   -0.2488   -0.0576   -0.1881   -0.1434
      11        1.0000   -0.3103   -0.0758   -0.3245   -0.2155    0.9309   -0.3406   -0.0788    0.1519    0.2678
      12       -0.3103    1.0000   -0.0899   -0.3848   -0.2555   -0.3333    0.9108   -0.0935    0.6656    0.7224
      13       -0.0758   -0.0899    1.0000   -0.0941   -0.0625   -0.0815   -0.0987    0.9623    0.2814    0.2450
      14       -0.3245   -0.3848   -0.0941    1.0000   -0.2673   -0.3486   -0.4225   -0.0977   -0.8271   -0.7516
      15       -0.2155   -0.2555   -0.0625   -0.2673    1.0000   -0.2315   -0.2806   -0.0649   -0.2121   -0.2286
      16        0.9309   -0.3333   -0.0815   -0.3486   -0.2315    1.0000   -0.3659   -0.0847    0.1632    0.2083
      17       -0.3406    0.9108   -0.0987   -0.4225   -0.2806   -0.3659    1.0000   -0.1026    0.7308    0.6473
      18       -0.0788   -0.0935    0.9623   -0.0977   -0.0649   -0.0847   -0.1026    1.0000    0.2924    0.2340
      19        0.1519    0.6656    0.2814   -0.8271   -0.2121    0.1632    0.7308    0.2924    1.0000    0.9051
      20        0.2678    0.7224    0.2450   -0.7516   -0.2286    0.2083    0.6473    0.2340    0.9051    1.0000
```

```
80.71
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 7  9-18

R = 0.7001      RSQ = 0.4902          81 ITERATIONS.

 V        BETA        B
 3      0.0         0.0
 4      0.0         0.0
 5      0.0         0.0
 6      0.0         0.0
 7      0.2657      0.5837
 9      0.8870      0.2197
10      0.6992      0.2256
11      0.7429      0.1707
12      0.8463      0.1922
13      0.0         0.0
14     -0.0268     -0.0502
15     -0.0559     -0.1324
16      0.1766      0.3547
17      0.1128      0.2072
18     -0.0069     -0.0386
REG. CONST. =       1.9117


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 8 14-18

R = 0.7002      RSQ = 0.4903          39 ITERATIONS.

 V        BETA        B
 3      0.0653      0.0466
 4      0.1840      0.1700
 5     -0.2409     -0.1687
 6     -0.1934     -0.1297
 7     -0.1010     -0.2218
 8      0.7072      0.2061
14     -0.3153     -0.5907
15     -0.4025     -0.9535
16      0.0145      0.0290
17     -0.0342     -0.0629
18      0.0210      0.1183
REG. CONST. =       2.4268


MODEL   3 M3   CRITERION =  1

PREDICTORS =  2- 2 19-20

R = 0.6946      RSQ = 0.4824          10 ITERATIONS.

 V        BETA        B
 2      0.8016      1.1824
19      0.2907      0.1972
20     -0.2957     -0.0667
REG. CONST. =       0.3045
```

80.71

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6915       RSQ = 0.4782            1 ITERATIONS.

  V       BETA         B
  2     0.6915      1.0200
REG. CONST. =       0.7833


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2 19-19

R = 0.6923       RSQ = 0.4793            2 ITERATIONS.

  V       BETA         B
  2     0.6877      1.0145
 19     0.0334      0.0226
REG. CONST. =       0.7384


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.4902       MODEL  1
RSQ REDUCED = 0.4903       MODEL  2
DIFFERENCE = -0.0001
DFN =  4.       DFD =  330.      F-RATIO =    0.0      P = 1.0000


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.4903       MODEL  2
RSQ REDUCED = 0.4824       MODEL  3
DIFFERENCE =  0.0078
DFN =  7.       DFD =  334.      F-RATIO =    0.734    P = 0.6448


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.4824       MODEL  3
RSQ REDUCED = 0.4782       MODEL  4
DIFFERENCE =  0.0042
DFN =  2.       DFD =  341.      F-RATIO =    1.394    P = 0.2482


F-TEST  4   MODEL 3 VS MODEL 5
RSQ FULL =      0.4824       MODEL  3
RSQ REDUCED = 0.4793       MODEL  5
DIFFERENCE =  0.0031
DFN =  1.       DFD =  341.      F-RATIO =    2.063    P = 0.1479


F-TEST  5   MODEL 5 VS MODEL 4
RSQ FULL =      0.4793       MODEL  5
RSQ REDUCED = 0.4782       MODEL  4
DIFFERENCE =  0.0011
DFN =  1.       DFD =  342.      F-RATIO =    0.722    P = 0.4006
```

```
COOPERATION AND GAIN -- 4-80/4-81 ITBS AVG.READING TOTAL G.E. -- GRADE 5

PARAMETERS
COL  1- 5 =    20
COL  6-10 =   310
COL 11-15 =     5
COL 16-20 =     5
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                    0710


INTERCORRELATION ANALYSIS.


MEANS            1         2         3         4         5         6         7         8         9        10
            4.2657    3.3252    0.9516    0.3821    0.8421    1.0805    0.0689   11.6094    3.2403    1.2915

MEANS           11        12        13        14        15        16        17        18        19        20
            2.9588    3.8650    0.2538    0.2925    0.1195    0.2516    0.3176    0.0189    2.6509    8.9085


SIGMAS           1         2         3         4         5         6         7         8         9        10
            1.0299    0.7434    1.5280    1.0703    1.4999    1.6424    0.4991    4.6986    5.5620    3.8552

SIGMAS          11        12        13        14        15        16        17        18        19        20
            5.6268    6.3231    1.8677    0.4549    0.3244    0.4339    0.4655    0.1361    1.2492    4.8846


R MATRIX         1         2         3         4         5         6         7         8         9        10

       1    1.0000    0.7754    0.0091   -0.0782    0.2076    0.1859    0.0590    0.7858    0.0842   -0.0382

       2    0.7754    1.0000    0.0671    0.0264    0.1422    0.2229    0.0669    0.9899    0.1572    0.0985

       3    0.0091    0.0671    1.0000   -0.2223   -0.3497   -0.4097   -0.0859    0.0526    0.9815   -0.2086

       4   -0.0782    0.0264   -0.2223    1.0000   -0.2004   -0.2349   -0.0493    0.0223   -0.2080    0.9827

       5    0.2076    0.1422   -0.3497   -0.2004    1.0000   -0.3694   -0.0775    0.1428   -0.3271   -0.1881

       6    0.1859    0.2229   -0.4097   -0.2349   -0.3694    1.0000   -0.0908    0.2354   -0.3833   -0.2204

       7    0.0590    0.0669   -0.0859   -0.0493   -0.0775   -0.0908    1.0000    0.0619   -0.0804   -0.0462

       8    0.7858    0.9899    0.0526    0.0223    0.1428    0.2354    0.0619    1.0000    0.1461    0.0849

       9    0.0842    0.1572    0.9815   -0.2080   -0.3271   -0.3833   -0.0804    0.1461    1.0000   -0.1952

      10   -0.0382    0.0885   -0.2086    0.9827   -0.1881   -0.2204   -0.0462    0.0849   -0.1952    1.0000

      11    0.2812    0.2257   -0.3275   -0.1877    0.9824   -0.3459   -0.0726    0.2294   -0.3063   -0.1762

      12    0.2635    0.3210   -0.3807   -0.2182   -0.3432    0.9807   -0.0843    0.3383   -0.3561   -0.2048

      13    0.0658    0.0726   -0.0846   -0.0485   -0.0763   -0.0894    0.9948    0.0691   -0.0792   -0.0455

      14   -0.0867   -0.0617    0.9686   -0.2295   -0.3610   -0.4230   -0.0887   -0.0725    0.9062   -0.2154

      15   -0.1242   -0.0633   -0.2294    0.9690   -0.2068   -0.2424   -0.0508   -0.0629   -0.2146    0.9093
```

16	0.0967	0.0174	-0.3611	-0.2070	0.9684	-0.3814	-0.0800	0.0187	-0.3378	-0.1942
17	0.0660	0.0705	-0.4249	-0.2435	-0.3831	0.9643	-0.0941	0.0812	-0.3975	-0.2285
18	0.0517	0.0606	-0.0864	-0.0495	-0.0779	-0.0912	0.9951	0.0544	-0.0808	-0.0465
19	0.1312	0.1009	-0.8230	-0.1860	0.1569	0.7105	0.2595	0.1112	-0.7699	-0.1746
20	0.4401	0.4975	-0.7016	-0.1570	0.1876	0.7272	0.2689	0.5060	-0.6420	-0.1279

R MATRIX	11	12	13	14	15	16	17	18	19	20
1	0.2812	0.2635	0.0658	-0.0867	-0.1242	0.0967	0.0660	0.0517	0.1312	0.4401
2	0.2257	0.3210	0.0726	-0.0617	-0.0633	0.0174	0.0705	0.0606	0.1009	0.4975
3	-0.3275	-0.3807	-0.0846	0.9686	-0.2294	-0.3611	-0.4249	-0.0864	-0.8230	-0.7016
4	-0.1877	-0.2182	-0.0485	-0.2295	0.9690	-0.2070	-0.2435	-0.0495	-0.1860	-0.1570
5	0.9824	-0.3432	-0.0763	-0.3610	-0.2068	0.9684	-0.3831	-0.0779	0.1569	0.1876
6	-0.3459	0.9807	-0.0894	-0.4230	-0.2424	-0.3814	0.9643	-0.0912	0.7105	0.7272
7	-0.0726	-0.0843	0.9948	-0.0887	-0.0508	-0.0800	-0.0941	0.9951	0.2595	0.2689
8	0.2294	0.3383	0.0691	-0.0725	-0.0629	0.0187	0.0812	0.0544	0.1112	0.5060
9	-0.3063	-0.3561	-0.0792	0.9062	-0.2146	-0.3378	-0.3975	-0.0808	-0.7699	-0.6420
10	-0.1762	-0.2048	-0.0455	-0.2154	0.9093	-0.1942	-0.2285	-0.0465	-0.1746	-0.1279
11	1.0000	-0.3214	-0.0715	-0.3381	-0.1937	0.9070	-0.3587	-0.0729	0.1469	0.2179
12	-0.3214	1.0000	-0.0831	-0.3930	-0.2252	-0.3544	0.8959	-0.0848	0.6601	0.7451
13	-0.0715	-0.0831	1.0000	-0.0874	-0.0501	-0.0788	-0.0927	0.9799	0.2555	0.2700
14	-0.3381	-0.3930	-0.0874	1.0000	-0.2368	-0.3727	-0.4386	-0.0892	-0.8497	-0.7443
15	-0.1937	-0.2252	-0.0501	-0.2368	1.0000	-0.2136	-0.2513	-0.0511	-0.1920	-0.1896
16	0.9070	-0.3544	-0.0788	-0.3727	-0.2136	1.0000	-0.3955	-0.0804	0.1620	0.1346
17	-0.3587	0.8959	-0.0927	-0.4386	-0.2513	-0.3955	1.0000	-0.0946	0.7368	0.6564
18	-0.0729	-0.0848	0.9799	-0.0892	-0.0511	-0.0804	-0.0946	1.0000	0.2608	0.2652
19	0.1469	0.6601	0.2555	-0.8497	-0.1920	0.1620	0.7368	0.2608	1.0000	0.8937
20	0.2179	0.7451	0.2700	-0.7443	-0.1896	0.1346	0.6564	0.2652	0.8937	1.0000

```
80.71
  MODEL   1 M1   CRITERION =   1

  PREDICTORS =   3- 7  9-18

  R = 0.7998       RSQ = 0.6397            94 ITERATIONS.

     V        BETA         B
     3     0.0          0.0
     4     0.0          0.0
     5     0.0          0.0
     6     0.0          0.0
     7     0.0          0.0
     9     0.8983       0.1663
    10     0.4554       0.1216
    11     1.1102       0.2032
    12     1.0213       0.1663
    13     0.2854       0.1574
    14    -0.1162      -0.2630
    15     0.0145       0.0460
    16    -0.2130      -0.5055
    17    -0.0946      -0.2093
    18     0.0          0.0
  REG. CONST. =         2.5506


  MODEL   2 M2   CRITERION =   1

  PREDICTORS =   3- 8 14-18

  R = 0.8005       RSQ = 0.6407            34 ITERATIONS.

     V        BETA         B
     3    -0.0412      -0.0278
     4    -0.2755      -0.2651
     5     0.3429       0.2355
     6     0.0          0.0
     7     0.0070       0.0145
     8     0.7634       0.1673
    14     0.0          0.0
    15     0.1843       0.5850
    16    -0.2900      -0.6883
    17    -0.0146      -0.0324
    18     0.0          0.0
  REG. CONST. =         2.3652


  MODEL   3 M3   CRITERION =   1

  PREDICTORS =   2- 2 19-20

  R = 0.7788       RSQ = 0.6065            20 ITERATIONS.

     V        BETA         B
     2     0.6663       0.9230
    19    -0.1573      -0.1297
    20     0.2511       0.0530
  REG. CONST. =         1.0686
```

```
30.71
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7754      RSQ = 0.6012           1 ITERATIONS.

   V       BETA        B
   2     0.7754     1.0741
REG. CONST. =       0.6941


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2 19-19

R = 0.7772      RSQ = 0.6040           2 ITERATIONS.

   V       BETA        B
   2     0.7700     1.0666
  19     0.0536     0.0442
REG. CONST. =       0.6019

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.6397      MODEL  1
RSQ REDUCED = 0.6407      MODEL  2
DIFFERENCE = -0.0010
DFN =  4.       DFD =  303.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.6407      MODEL  2
RSQ REDUCED = 0.6065      MODEL  3
DIFFERENCE =  0.0343
DFN =  7.       DFD =  307.     F-RATIO =    4.182    P = 0.0004

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.6065      MODEL  3
RSQ REDUCED = 0.6012      MODEL  4
DIFFERENCE =  0.0053
DFN =  2.       DFD =  314.     F-RATIO =    2.119    P = 0.1197

F-TEST  4   MODEL 3 VS MODEL 5
RSQ FULL =      0.6065      MODEL  3
RSQ REDUCED = 0.6040      MODEL  5
DIFFERENCE =  0.0025
DFN =  1.       DFD =  314.     F-RATIO =    1.971    P = 0.1576

F-TEST  5   MODEL 5 VS MODEL 4
RSQ FULL =      0.6040      MODEL  5
RSQ REDUCED = 0.6012      MODEL  4
DIFFERENCE =  0.0028
DFN =  1.       DFD =  315.     F-RATIO =    2.260    P = 0.1297
```

```
      *** OUTPUT FROM PROGRAM REGRAN ***

CCOPERATION AND GAIN -- 4-80/4-81 ITBS AVG.READING TOTAL G.E. -- GRADE 6

PARAMETERS
CCL  1- 5 =    20
COL  6-10 =   288
CCL 11-15 =     5
CCL 16-20 =     5
CCL 21-25 =     1

DATA FORMAT = (DUMMY)                                                      0710


INTERCORRELATION ANALYSIS.

MEANS           1         2         3         4         5         6         7         8         9        10
           4.9899    4.0760    1.0882    0.5865    0.9816    1.3358    0.0840   17.3640    4.4035    2.5748

MEANS          11        12        13        14        15        16        17        18        19        20
           4.3261    5.7180    0.3415    0.2847    0.1389    0.2326    0.3229    0.0208    2.6563   10.9691


SIGMAS          1         2         3         4         5         6         7         8         9        10
           1.0493    0.8660    1.7943    1.4936    1.8337    1.9834    0.5783    6.8221    7.8842    6.8917

SIGMAS         11        12        13        14        15        16        17        18        19        20
           8.5878    9.0247    2.3771    0.4513    0.3458    0.4225    0.4676    0.1428    1.2513    5.7744


R MATRIX        1         2         3         4         5         6         7         8         9        10

        1  1.0000    0.7359   -0.0495    0.0816    0.2299    0.0897    0.0083    0.7368    0.0452    0.1137

        2  0.7359    1.0000   -0.0206    0.1426    0.2047    0.1592   -0.0019    0.9925    0.0988    0.1954

        3 -0.0495   -0.0206    1.0000   -0.2381   -0.3247   -0.4085   -0.0881   -0.0222    0.9778   -0.2266

        4  0.0816    0.1426   -0.2381    1.0000   -0.2102   -0.2644   -0.0570    0.1451   -0.2193    0.9862

        5  0.2299    0.2047   -0.3247   -0.2102    1.0000   -0.3605   -0.0778    0.2151   -0.2990   -0.2000

        6  0.0897    0.1592   -0.4085   -0.2644   -0.3605    1.0000   -0.0979    0.1499   -0.3762   -0.2516

        7  0.0083   -0.0019   -0.0881   -0.0570   -0.0778   -0.0979    1.0000   -0.0154   -0.0812   -0.0543

        8  0.7368    0.9925   -0.0222    0.1451    0.2151    0.1499   -0.0154    1.0000    0.0946    0.2003

        9  0.0452    0.0988    0.9778   -0.2193   -0.2990   -0.3762   -0.0812    0.0946    1.0000   -0.2087

       10  0.1137    0.1954   -0.2266    0.9862   -0.2000   -0.2516   -0.0543    0.2003   -0.2087    1.0000

       11  0.2795    0.2825   -0.3055   -0.1978    0.9835   -0.3393   -0.0732    0.2961   -0.2814   -0.1882

       12  0.1626    0.2450   -0.3843   -0.2488   -0.3392    0.9824   -0.0921    0.2413   -0.3539   -0.2367

       13  0.0079    0.0031   -0.0871   -0.0564   -0.0769   -0.0968    0.9964   -0.0101   -0.0802   -0.0537

       14 -0.1707   -0.1851    0.9613   -0.2477   -0.3377   -0.4249   -0.0917   -0.1755    0.8853   -0.2357

       15  0.0345    0.0679   -0.2436    0.9777   -0.2150   -0.2705   -0.0584    0.0692   -0.2243    0.9303
```

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80.71

	[illegible]	[illegible]	[illegible]	−0.2162	0.9722	−0.3708	−0.0800	0.0994	−0.3075	−0.2057
17	−0.0019	0.0483	−0.4188	−0.2712	−0.3697	0.9752	−0.1003	0.0348	−0.3857	−0.2580
18	0.0084	−0.0072	−0.0885	−0.0573	−0.0781	−0.0982	0.9961	−0.0208	−0.0815	−0.0545
19	0.1148	0.1311	−0.8027	−0.2059	0.1470	0.7232	0.2721	0.1157	−0.7393	−0.1959
20	0.3733	0.4801	−0.7271	−0.1488	0.2088	0.7177	0.2353	0.4712	−0.6519	−0.1237

R MATRIX	11	12	13	14	15	16	17	18	19	20
1	0.2795	0.1626	0.0079	−0.1707	0.0345	0.1533	−0.0019	0.0084	0.1148	0.3733
2	0.2825	0.2450	0.0031	−0.1851	0.0679	0.0912	0.0483	−0.0072	0.1311	0.4801
3	−0.3055	−0.3843	−0.0871	0.9613	−0.2436	−0.3339	−0.4188	−0.0885	−0.8027	−0.7271
4	−0.1978	−0.2488	−0.0564	−0.2477	0.9777	−0.2162	−0.2712	−0.0573	−0.2059	−0.1488
5	0.5835	−0.3392	−0.0769	−0.3377	−0.2150	0.9722	−0.3697	−0.0781	0.1470	0.2088
6	−0.3393	0.9824	−0.0968	−0.4249	−0.2705	−0.3708	0.9752	−0.0982	0.7232	0.7177
7	−0.0732	−0.0921	0.9964	−0.0917	−0.0584	−0.0800	−0.1003	0.9961	0.2721	0.2353
8	0.2961	0.2413	−0.0101	−0.1755	0.0692	0.0994	0.0348	−0.0208	0.1157	0.4712
9	−0.2814	−0.3539	−0.0802	0.8853	−0.2243	−0.3075	−0.3857	−0.0815	−0.7393	−0.6519
10	−0.1882	−0.2367	−0.0537	−0.2357	0.9303	−0.2057	−0.2580	−0.0545	−0.1959	−0.1237
11	1.0000	−0.3192	−0.0724	−0.3178	−0.2023	0.9149	−0.3479	−0.0735	0.1384	0.2370
12	−0.3192	1.0000	−0.0910	−0.3997	−0.2545	−0.3489	0.9175	−0.0924	0.6804	0.7324
13	−0.0724	−0.0910	1.0000	−0.0906	−0.0577	−0.0791	−0.0992	0.9850	0.2691	0.2365
14	−0.3178	−0.3997	−0.0906	1.0000	−0.2534	−0.3474	−0.4357	−0.0920	−0.8351	−0.7809
15	−0.2023	−0.2545	−0.0577	−0.2534	1.0000	−0.2211	−0.2774	−0.0586	−0.2106	−0.1756
16	0.9149	−0.3489	−0.0791	−0.3474	−0.2211	1.0000	−0.3802	−0.0803	0.1513	0.1611
17	−0.3479	0.9175	−0.0992	−0.4357	−0.2774	−0.3802	1.0000	−0.1007	0.7416	0.6670
18	−0.0735	−0.0924	0.9850	−0.0920	−0.0586	−0.0803	−0.1007	1.0000	0.2732	0.2323
19	0.1384	0.6804	0.2691	−0.8351	−0.2106	0.1513	0.7416	0.2732	1.0000	0.9140
20	0.2370	0.7324	0.2365	−0.7809	−0.1756	0.1611	0.6670	0.2323	0.9140	1.0000

```
80.71
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 7  9-18

R = 0.7463      RSQ = 0.5570          80 ITERATIONS.

 V       BETA        B
 3     0.0        0.0
 4     0.0        0.0
 5     0.0        0.0
 6     0.0        0.0
 7     0.0        0.0
 9     0.8993     0.1197
10     0.6289     0.0958
11     0.8729     0.1067
12     1.0225     0.1189
13     0.0        0.0
14    -0.0499    -0.1160
15     0.1093     0.3318
16     0.1297     0.3222
17    -0.0406    -0.0912
18     0.2840     2.0866
REG. CONST. =     2.9731


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 8 14-18

R = 0.7448      RSQ = 0.5548          56 ITERATIONS.

 V       BETA        B
 3     0.1671     0.0977
 4    -0.0781    -0.0549
 5    -0.0971    -0.0555
 6     0.1927     0.1020
 7    -0.0616    -0.1117
 8     0.6968     0.1072
14     0.0        0.0
15     0.2158     0.6549
16     0.3453     0.8575
17     0.0        0.0
18     0.1445     1.0613
REG. CONST. =     2.6700


MODEL  3 M3  CRITERION =  1

PREDICTORS =  2- 2 19-20

R = 0.7365      RSQ = 0.5425          15 ITERATIONS.

 V       BETA        B
 2     0.6958     0.8431
19    -0.0708    -0.0594
20     0.1033     0.0188
REG. CONST. =     1.5056
```

```
80.71
   MODEL  4 M4  CRITERION =  1

   PREDICTORS =  2- 2

   R = 0.7359      RSQ = 0.5416         1 ITERATIONS.

     V       BETA       B
     2     0.7359     0.8917
   REG. CONST. =      1.3552


   MODEL  5 M5  CRITERION =  1

   PREDICTORS =  2- 2 19-19

   R = 0.7362      RSQ = 0.5420         2 ITERATIONS.

     V       BETA       B
     2.    0.7335     0.8888
    19     0.0186     0.0156
   REG. CONST. =      1.3258

   F-TEST  1    MODEL 1 VS MODEL 2
   RSQ FULL =      0.5570      MODEL  1
   RSQ REDUCED = 0.5548      MODEL  2
   DIFFERENCE =  0.0022
   DFN =  4.       DFD =  273.      F-RATIO =    0.342    P = 0.8502

   F-TEST  2    MODEL 2 VS MODEL 3
   RSQ FULL =      0.5548      MODEL  2
   RSQ REDUCED = 0.5425      MODEL  3
   DIFFERENCE =  0.0123
   DFN =  7.       DFD =  277.      F-RATIO =    1.096    P = 0.3655

   F-TEST  3    MODEL 3 VS MODEL 4
   RSQ FULL =      0.5425      MODEL  3
   RSQ REDUCED = 0.5416      MODEL  4
   DIFFERENCE =  0.0008
   DFN =  2.       DFD =  284.      F-RATIO =    0.261    P = 0.7737

   F-TEST  4    MODEL 3 VS MODEL 5
   RSQ FULL =      0.5425      MODEL  3
   RSQ REDUCED = 0.5420      MODEL  5
   DIFFERENCE =  0.0005
   DFN =  1.       DFD =  284.      F-RATIO =    0.312    P = 0.5837

   F-TEST  5    MODEL 5 VS MODEL 4
   RSQ FULL =      0.5420      MODEL  5
   RSQ REDUCED = 0.5416      MODEL  4
   DIFFERENCE =  0.0003
   DFN =  1.       DFD =  285.      F-RATIO =    0.211    P = 0.6512
```

REGRESSION ANALYSES COMPARING AT-HOME PARTICIPANTS AND CONTROL STUDENTS AT GRADES 1-6.

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the original document was blank.

```
AT HOME -- GRADE 1 -- 9-80 MRT/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
COL  1- 5 =     8
COL  6-10 =    48
CCL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                    0500


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
            1.8521    45.0000    21.4583    23.5417  2213.2917  1000.0000  1213.2917     0.5000


SIGMAS           1          2          3          4          5          6          7          8
            0.7767    13.7219    23.2280    25.6726  1197.8838  1250.8586  1515.5400     0.5000


R MATRIX         1          2          3          4          5          6          7          8

       1    1.0000     0.7631    -0.0077     0.4148     0.7750     0.0978     0.5318    -0.1690

       2    0.7631     1.0000     0.1078     0.4369     0.9862     0.2606     0.5644    -0.1518

       3   -0.0077     0.1078     1.0000    -0.8471     0.0712     0.9642    -0.7396     0.9238

       4    0.4148     0.4369    -0.8471     1.0000     0.4628    -0.7331     0.9708    -0.9170

       5    0.7750     0.9862     0.0712     0.4628     1.0000     0.2345     0.5969    -0.1781

       6    0.0978     0.2606     0.9642    -0.7331     0.2345     1.0000    -0.6400     0.7995

       7    0.5318     0.5644    -0.7396     0.9708     0.5969    -0.6400     1.0000    -0.8006

       8   -0.1690    -0.1518     0.9238    -0.9170    -0.1781     0.7995    -0.8006     1.0000
```

```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.7859        RSQ = 0.6177            19 ITERATIONS.

  V        BETA          B
  3      0.8103      0.0271
  4      0.0         0.0
  6      0.1309      0.0001
  7      1.1055      0.0006
  8     -0.1372     -0.2131
REG. CONST. =        0.6085


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.7840        RSQ = 0.6146             9 ITERATIONS.

  V        BETA          B
  3      0.0         0.0
  4      0.4365      0.0132
  5      0.6345      0.0004
  8      0.3443      0.5349
REG. CONST. =        0.3631


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.7766        RSQ = 0.6032            49 ITERATIONS.

  V        BETA          B
  3      1.0335      0.0346
  4      1.6209      0.0490
  8      0.3627      0.5634
REG. CONST. =       -0.3257


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.7650        RSQ = 0.5852             2 ITERATIONS.

  V        BETA          B
  2      0.7548      0.0427
  8     -0.0544     -0.0845
REG. CONST. =       -0.0284
```

```
MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7631      RSQ = 0.5823         1 ITERATIONS.

  V       BETA        B
  2    0.7631     0.0432
REG. CONST. =   -0.0917

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.6177        MODEL  1
RSQ REDUCED = 0.6146       MODEL  2
DIFFERENCE =  0.0030
DFN =  1.      DFD =    42.     F-RATIO =    0.335    P = 0.5728

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.6146        MODEL  2
RSQ REDUCED = 0.6032       MODEL  3
DIFFERENCE =  0.0114
DFN =  1.      DFD =    43.     F-RATIO =    1.277    P = 0.2638

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.6032        MODEL  3
RSQ REDUCED = 0.5852       MODEL  4
DIFFERENCE =  0.0180
DFN =  1.      DFD =    44.     F-RATIO =    1.993    P = 0.1616

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.5852        MODEL  4
RSQ REDUCED = 0.5823       MODEL  5
DIFFERENCE =  0.0029
DFN =  1.      DFD =    45.     F-RATIO =    0.313    P = 0.5851
```

```
AT HOME -- GRADE 2 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
COL  1- 5 =     8
COL  6-10 =    94
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                          0500


INTERCORRELATION ANALYSIS.

MEANS           1          2          3          4          5          6          7          8
             2.3223     1.6064     0.7968     0.8096     2.9368     1.4522     1.4846     0.5000

SIGMAS          1          2          3          4          5          6          7          8
             0.7543     0.5969     0.9041     0.9106     2.4326     2.2505     2.2726     0.5000

R MATRIX        1          2          3          4          5          6          7          8

        1    1.0000     0.5724     0.2159     0.1609     0.6176     0.3398     0.3246     0.0804

        2    0.5724     1.0000     0.3192     0.3387     0.9549     0.5092     0.5179    -0.0214

        3    0.2159     0.3192     1.0000    -0.7836     0.3078     0.9141    -0.5758     0.8814

        4    0.1609     0.3387    -0.7836     1.0000     0.3204    -0.5737     0.9112    -0.8891

        5    0.6176     0.9549     0.3078     0.3204     1.0000     0.5313     0.5442    -0.0133

        6    0.3398     0.5092     0.9141    -0.5737     0.5313     1.0000    -0.4215     0.6453

        7    0.3246     0.5179    -0.5758     0.9112     0.5442    -0.4215     1.0000    -0.6533

        8    0.0804    -0.0214     0.8814    -0.8891    -0.0133     0.6453    -0.6533     1.0000
```

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80.71

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6648      RSQ = 0.4420          223 ITERATIONS.

  V       BETA       B
  3    -1.3821    -1.1532
  4     0.6132     0.5080
  6     1.3159     0.4410
  7     0.3038     0.1009
  8     1.1926     1.7991
REG. CONST. =      1.1402


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6421      RSQ = 0.4122            7 ITERATIONS.

  V       BETA       B
  3    -0.4341    -0.3622
  4     0.0        0.0
  5     0.7576     0.2349
  8     0.4729     0.7135
REG. CONST. =      1.5643


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.5986      RSQ = 0.3583           37 ITERATIONS.

  V       BETA       B
  3     0.6621     0.5524
  4     1.1010     0.9121
  8     0.4757     0.7177
REG. CONST. =      0.7849


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.5798      RSQ = 0.3362            2 ITERATIONS.

  V       BETA       B
  2     0.5744     0.7258
  8     0.0927     0.1398
REG. CONST. =      1.0866
```

80.71

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5724     RSQ = 0.3276          1 ITERATIONS.

  V      BETA       B
  2    0.5724    0.7233
REG. CONST. =    1.1605


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.4420      MODEL  1
RSQ REDUCED = 0.4122      MODEL  2
DIFFERENCE =  0.0297
DFN =  1.      DFD =   88.     F-RATIO =   4.689   P = 0.0310


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.4122      MODEL  2
RSQ REDUCED = 0.3583      MODEL  3
DIFFERENCE =  0.0539
DFN =  1.      DFD =   89.     F-RATIO =   8.162   P = 0.0055


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.3583      MODEL  3
RSQ REDUCED = 0.3362      MODEL  4
DIFFERENCE =  0.0221
DFN =  1.      DFD =   90.     F-RATIO =   3.105   P = 0.0777


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.3362      MODEL  4
RSQ REDUCED = 0.3276      MODEL  5
DIFFERENCE =  0.0086
DFN =  1.      DFD =   91.     F-RATIO =   1.177   P = 0.2805
```

80.71

```
AT HOME -- GRADE 3 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
CCL  1- 5 =     8
COL  6-10 =    44
COL 11-15 =     5
COL 16-20 =     4
CCL 21-25 =     1

DATA FORMAT = (DUMMY)                                                        0500


INTERCORRELATION ANALYSIS.

MEANS          1        2        3        4        5        6        7        8
            2.7114   1.7682   0.8773   0.8909   3.4855   1.7168   1.7686   0.5000


SIGMAS         1        2        3                 5        6        7        8
            0.8125   0.5992   0.9732   0.9874   2.6631   2.5434   2.5877   0.5000


R MATRIX       1        2        3        4        5        6        7        8

      1     1.0000   0.7048   0.1443   0.2854   0.7072   0.3305   0.4030  -0.0979

      2     0.7048   1.0000   0.2841   0.3268   0.9745   0.4906   0.5207  -0.0228

      3     0.1443   0.2841   1.0000  -0.8133   0.2800   0.9199  -0.6161   0.9014

      4     0.2854   0.3268  -0.8133   1.0000   0.3154  -0.6091   0.9232  -0.9023

      5     0.7072   0.9745   0.2800   0.3154   1.0000   0.5068   0.5311  -0.0195

      6     0.3305   0.4906   0.9199  -0.6091   0.5068   1.0000  -0.4614   0.6750

      7     0.4030   0.5207  -0.6161   0.9232   0.5311  -0.4614   1.0000  -0.6835

      8    -0.0979  -0.0228   0.9014  -0.9023  -0.0195   0.6750  -0.6835   1.0000
```

D-100

```
80.71


         MODEL   1 M1  CRITERION =  1

         PREDICTORS =  3- 4  6- 8

         R = 0.7171      RSQ = 0.5143       135 ITERATIONS.

           V        BETA        B
           3      0.2965     0.2475
           4      0.2465     0.2029
           6      0.5585     0.1784
           7      0.4929     0.1548
           8     -0.1828    -0.2970
         REG. CONST. =       1.8820


         MODEL   2 M2  CRITERION =  1

         PREDICTORS =  3- 5  8- 8

         R = 0.7177      RSQ = 0.5151        98 ITERATIONS.

           V        BETA        B
           3      0.4954     0.4136
           4      0.2795     0.2300
           5      0.4748     0.1449
           8     -0.2859    -0.4645
         REG. CONST. =       1.8710


         MODEL   3 M3  CRITERION =  1

         PREDICTORS =  3- 4  8- 8

         R = 0.7120      RSQ = 0.5070        38 ITERATIONS.

           V        BETA        B
           3      1.2290     1.0260
           4      1.0750     0.8845
           8     -0.2328    -0.3782
         REG. CONST. =       1.2124


         MODEL   4 M4  CRITERION =  1

         PREDICTORS =  2- 2  8- 8

         R = 0.7095      RSQ = 0.5034         2 ITERATIONS.

           V        BETA        B
           2      0.7029     0.9532
           8     -0.0819    -0.1331
         REG. CONST. =       1.0925
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7048      RSQ = 0.4967          1 ITERATIONS.

  V      BETA       B
  2    0.7048    0.9557
REG. CONST. =    1.0215

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5143      MODEL  1
RSQ REDUCED = 0.5151        MODEL  2
DIFFERENCE = -0.0008
DFN =  1.      DFD =   38.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5151      MODEL  2
RSQ REDUCED = 0.5070        MODEL  3
DIFFERENCE =  0.0081
DFN =  1.      DFD =   39.     F-RATIO =    0.651    P = 0.4303

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5070      MODEL  3
RSQ REDUCED = 0.5034        MODEL  4
DIFFERENCE =  0.0035
DFN =  1.      DFD =   40.     F-RATIO =    0.287    P = 0.6015

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5034      MODEL  4
RSQ REDUCED = 0.4967        MODEL  5
DIFFERENCE =  0.0067
DFN =  1.      DFD =   41.     F-RATIO =    0.554    P = 0.4676
```

```
AT HOME -- GRADE 4 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
COL  1- 5 =     8
COL  6-10 =    28
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                     0500


INTERCORRELATION ANALYSIS.


MEANS             1          2          3          4          5          6          7          8
             3.6321     2.8357     1.4214     1.4143     8.3721     4.2021     4.1700     0.5000


SIGMAS            1          2          3          4          5          6          7          8
             0.7611     0.5752     1.4771     1.4730     3.3482     4.8197     4.7987     0.5000


R MATRIX          1          2          3          4          5          6          7          8

        1    1.0000     0.7128     0.0591     0.2191     0.6952     0.1887     0.2955    -0.1079

        2    0.7128     1.0000     0.2017     0.1882     0.9931     0.3508     0.3407     0.0124

        3    0.0591     0.2017     1.0000    -0.9240     0.1998     0.9714    -0.8363     0.9623

        4    0.2191     0.1882    -0.9240     1.0000     0.1875    -0.8371     0.9716    -0.9601

        5    0.6952     0.9931     0.1998     0.1875     1.0000     0.3536     0.3426     0.0096

        6    0.1887     0.3508     0.9714    -0.8371     0.3536     1.0000    -0.7577     0.8719

        7    0.2955     0.3407    -0.8363     0.9716     0.3426    -0.7577     1.0000    -0.8690

        8   -0.1079     0.0124     0.9623    -0.9601     0.0096     0.8719    -0.8690     1.0000
```

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```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.7566       RSQ = 0.5725          807 ITERATIONS.

  V        BETA          B
  3      7.7864      4.0124
  4      1.7061      0.8816
  6     -3.1075     -0.4907
  7     -0.1317     -0.0209
  8     -3.3712     -5.1319
REG. CONST. =        1.3972


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.7458       RSQ = 0.5563          388 ITERATIONS.

  V        BETA          B
  3      4.5984      2.3696
  4      3.7028      1.9133
  5     -0.9084     -0.2065
  8     -0.9713     -1.4786
REG. CONST. =        0.0262


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.7358       RSQ = 0.5414           97 ITERATIONS.

  V        BETA          B
  3      2.1770      1.1218
  4      1.5156      0.7831
  8     -0.7478     -1.1383
REG. CONST. =        1.4992


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.7223       RSQ = 0.5217            2 ITERATIONS.

  V        BETA          B
  2      0.7142      0.9451
  8     -0.1168     -0.1778
REG. CONST. =        1.0410
```

80.71

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7128      RSQ = 0.5081          1 ITERATIONS.

  V       BETA        B
  2    0.7128     0.9432
REG. CONST. =     0.9576

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5725      MODEL  1
RSQ REDUCED = 0.5563      MODEL  2
DIFFERENCE =  0.0162
DFN =  1.      DFD =   22.      F-RATIO =   0.835    P = 0.3739

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5563      MODEL  2
RSQ REDUCED = 0.5414      MODEL  3
DIFFERENCE =  0.0149
DFN =  1.      DFD =   23.      F-RATIO =   0.771    P = 0.3928

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5414      MODEL  3
RSQ REDUCED = 0.5217      MODEL  4
DIFFERENCE =  0.0197
DFN =  1.      DFD =   24.      F-RATIO =   1.030    P = 0.3214

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5217      MODEL  4
RSQ REDUCED = 0.5081      MODEL  5
DIFFERENCE =  0.0136
DFN =  1.      DFD =   25.      F-RATIO =   0.713    P = 0.4112
```

80.71

```
AT HOME -- GRADE 5 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
CCL  1- 5 =      8
CCL  6-10 =     42
COL 11-15 =      5
CCL 16-20 =      4
CCL 21-25 =      1

DATA FORMAT = (DUMMY)                                                       0500


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
              4.6000     3.7071     1.8500     1.8571    15.8802     7.8978     7.9824     0.5000


SIGMAS           1          2          3          4          5          6          7          8
              1.6596     1.4620     2.1155     2.1292    12.7563    11.8821    12.1501     0.5000


R MATRIX         1          2          3          4          5          6          7          8

        1     1.0000     0.9437     0.3887     0.2618     0.9288     0.5703     0.4174     0.0201

        2     0.9437     1.0000     0.3362     0.3526     0.9876     0.5143     0.5339    -0.0049

        3     0.3887     0.3362     1.0000    -0.7628     0.3274     0.9389    -0.5745     0.8745

        4     0.2618     0.3526    -0.7628     1.0000     0.3528    -0.5798     0.9374    -0.8722

        5     0.9288     0.9876     0.3274     0.3528     1.0000     0.5155     0.5457    -0.0066

        6     0.5703     0.5143     0.9389    -0.5798     0.5155     1.0000    -0.4367     0.6647

        7     0.4174     0.5339    -0.5745     0.9374     0.5457    -0.4367     1.0000    -0.6570

        8     0.0201    -0.0049     0.8745    -0.8722    -0.0066     0.6647    -0.6570     1.0000
```

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```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.9574        RSQ = 0.9167          294 ITERATIONS.

  V        BETA          B
  3      2.1581     1.6930
  4      0.2356     0.1837
  6     -0.3807    -0.0532
  7      0.6075     0.0830
  8     -1.0095    -3.3507
REG. CONST. =       2.5597


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 5   8- 8

R = 0.9549        RSQ = 0.9119          126 ITERATIONS.

  V        BETA          B
  3      1.5980     1.2536
  4      1.1573     0.9021
  5     -0.0051    -0.0007
  8     -0.3709    -1.2311
REG. CONST. =       1.2317


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.9550        RSQ = 0.9119           35 ITERATIONS.

  V        BETA          B
  3      1.5678     1.2299
  4      1.1804     0.9201
  8     -0.3213    -1.0666
REG. CONST. =       1.1492
```

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.9441      RSQ = 0.8912          2 ITERATIONS.

  V       BETA        B
  2     0.9439     1.0715
  8     0.0247     0.0820
REG. CONST. =      0.5870


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.9437      RSQ = 0.8906          1 ITERATIONS.

  V       BETA        B
  2     0.9437     1.0713
REG. CONST. =      0.6285


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.9167      MODEL  1
RSQ REDUCED = 0.9119      MODEL  2
DIFFERENCE =  0.0048
DFN =  1.      DFD =   36.     F-RATIO =    2.058    P = 0.1566


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.9119      MODEL  2
RSQ REDUCED = 0.9119      MODEL  3
DIFFERENCE = -0.0001
DFN =  1.      DFD =   37.     F-RATIO =    0.0      P = 1.0000


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.9119      MODEL  3
RSQ REDUCED = 0.8912      MODEL  4
DIFFERENCE =  0.0207
DFN =  1.      DFD =   38.     F-RATIO =    8.933    P = 0.0051


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.8912      MODEL  4
RSQ REDUCED = 0.8906      MODEL  5
DIFFERENCE =  0.0006
DFN =  1.      DFD =   39.     F-RATIO =    0.219    P = 0.6474
```

```
AT HOME -- GRADE 6 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.

PARAMETERS
COL  1- 5 =      8
COL  6-10 =     32
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1
                                                                                    0500
DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
              5.8687     4.6000     2.2781     2.3219    22.1794    10.9228    11.2566     0.5000


SIGMAS           1          2          3          4          5          6          7          8
              0.9040     1.0096     2.3944     2.4219     9.1844    12.7530    12.9469     0.5000


R MATRIX         1          2          3          4          5          6          7          8

        1     1.0000     0.8348     0.0063     0.3417     0.8675     0.1777     0.4403    -0.1936

        2     0.8348     1.0000     0.1834     0.2355     0.9830     0.3325     0.3699    -0.0433

        3     0.0063     0.1834     1.0000    -0.9122     0.1818     0.9708    -0.8272     0.9515

        4     0.3417     0.2355    -0.9122     1.0000     0.2300    -0.8211     0.9720    -0.9587

        5     0.8675     0.9830     0.1818     0.2300     1.0000     0.3388     0.3757    -0.0363

        6     0.1777     0.3325     0.9708    -0.8211     0.3388     1.0000    -0.7447     0.8565

        7     0.4403     0.3699    -0.8272     0.9720     0.3757    -0.7447     1.0000    -0.8694

        8    -0.1936    -0.0433     0.9515    -0.9587    -0.0363     0.8565    -0.8694     1.0000
```

D-109

80.71

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.9020      RSQ = 0.8135          416 ITERATIONS.

  V      BETA        B
  3    -2.5080    -0.9469
  4     0.0        0.0
  6     2.7682     0.1962
  7     1.1134     0.0777
  8     0.7896     1.4275
REG. CONST. =      4.2938


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.8900      RSQ = 0.7922          216 ITERATIONS.

  V      BETA        B
  3    -1.1273    -0.4256
  4    -1.4538    -0.5426
  5     1.3899     0.1368
  8    -0.4673    -0.8448
REG. CONST. =      5.4865


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.8497      RSQ = 0.7219           55 ITERATIONS.

  V      BETA        B
  3     1.9809     0.7479
  4     1.9665     0.7340
  8    -0.1930    -0.3489
REG. CONST. =      2.6353


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.8495      RSQ = 0.7217            2 ITERATIONS.

  V      BETA        B
  2     0.8279     0.7413
  8    -0.1577    -0.2851
REG. CONST. =      2.6015
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8348      RSQ = 0.6968          1 ITERATIONS.

  V      BETA       B
  2    0.8348    0.7474
REG. CONST. =    2.4307

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.8135     MODEL  1
RSQ REDUCED = 0.7922     MODEL  2
DIFFERENCE =  0.0214
DFN =  1.      DFD =   26.     F-RATIO =   2.978    P = 0.0928

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.7922     MODEL  2
RSQ REDUCED = 0.7219     MODEL  3
DIFFERENCE =  0.0702
DFN =  1.      DFD =   27.     F-RATIO =   9.126    P = 0.0056

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.7219     MODEL  3
RSQ REDUCED = 0.7217     MODEL  4
DIFFERENCE =  0.0003
DFN =  1.      DFD =   28.     F-RATIO =   0.027    P = 0.8640

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.7217     MODEL  4
RSQ REDUCED = 0.6968     MODEL  5
DIFFERENCE =  0.0248
DFN =  1.      DFD = ' 29.     F-RATIO =   2.587    P = 0.1150
```

MODELS USED FOR EVALUATION QUESTION D2-2

Model 1:

$$Y = a_0U + a_1X^{(3)} + a_2X^{(4)} + a_3X^{(5)} + a_4X^{(6)} + a_5X^{(7)} + a_6X^{(9)} + a_7X^{(10)} + a_8X^{(11)} + a_9X^{(12)} + a_{10}X^{(13)} + a_{11}X^{(14)} + a_{12}X^{(15)} + a_{13}X^{(16)} + a_{14}X^{(17)} + a_{15}X^{(18)} + E$$

Model 2:

$$Y = a_{16}U + a_{17}X^{(3)} + a_{18}X^{(4)} + a_{19}X^{(5)} + a_{20}X^{(6)} + a_{21}X^{(7)} + a_{22}X^{(8)} + a_{23}X^{(14)} + a_{24}X^{(15)} + a_{25}X^{(16)} + a_{26}X^{(17)} + a_{27}X^{(18)} + E$$

Model 3:

$$Y = a_{28}U + a_{29}X^{(3)} + a_{30}X^{(4)} + a_{31}X^{(5)} + a_{32}X^{(6)} + a_{33}X^{(7)} + a_{34}X^{(14)} + a_{35}X^{(15)} + a_{36}X^{(16)} + a_{37}X^{(17)} + a_{38}X^{(18)} + E$$

Model 4:

$$Y = a_{39}U + a_{40}X^{(2)} + a_{41}X^{(14)} + a_{42}X^{(15)} + a_{43}X^{(16)} + a_{44}X^{(17)} + a_{45}X^{(18)} + E$$

Model 5:

$$Y = a_{46}U + a_{47}X^{(2)} + E$$

Where,

Y = posttest

U = unit vector

$X^{(2)}$ = pretest

$X^{(3)}$ = pretest if member of group 1; 0, otherwise

$X^{(4)}$ = pretest if member of group 2; 0, otherwise

$X^{(5)}$ = pretest if member of group 3; 0, otherwise

$X^{(6)}$ = pretest if member of group 4; 0, otherwise

$X^{(7)}$ = pretest if member of group 5; 0, otherwise

$X^{(8)}$ = variable 2 squared

$X^{(9)}$ = variable 3 squared

$X^{(10)}$ = variable 4 squared

$X^{(11)}$ = variable 5 squared

$X^{(12)}$ = variable 6 squared

$X^{(13)}$ = variable 7 squared

$X^{(14)}$ = 1 if member of group 1; 0, otherwise

$X^{(15)}$ = 1 if member of group 2; 0, otherwise

$X^{(16)}$ = 1 if member of group 3; 0, otherwise

$X^{(17)}$ = 1 if member of group 4; 0, otherwise

$X^{(18)}$ = 1 if member of group 5; 0, otherwise

REGRESSION ANALYSES COMPARING SCHOOLWIDE PROJECT STUDENTS, TITLE I STUDENTS, AND FORMER TITLE I STUDENTS AT GRADES 1-6.

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 1 -- ITBS-SMP VS TI VS FTI -- GRADE 1                                    0850

PARAMETERS
COL  1- 5 =    18
CCL  6-10 =   517
CCL 11-15 =     5
CCL 16-20 =     4
CCL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                          0870

INTERCORRELATION ANALYSIS.

MEANS              1          2          3          4          5          6          7          8          9         10
              1.3346    34.1799     3.3250     2.8859    19.1373     1.6789     7.1528  1234.2418   112.0754   114.1857

MFANS             11         12         13         14         15         16         17         18
            683.4197    51.4275   273.1335     0.1044     0.0754     0.5667     0.0580     0.1954


SIGMAS             1          2          3          4          5          6          7          8          9         10
              0.5618     8.1226    10.0509    10.2887    17.8096     6.9720    14.8987   536.5218   366.9526   422.4370

SIGMAS            11         12         13         14         15         16         17         18
            717.4161   229.9224   600.5352     0.3058     0.2641     0.4955     0.2338     0.3965


R MATRIX           1          2          3          4          5          6          7          8          9         10

       1      1.0000     0.3771    -0.0024     0.2288    -0.0836    -0.0904     0.1915     0.3781     0.0264     0.2337

       2      0.3771     1.0000    -0.0192     0.1860     0.2026    -0.1052     0.2368     0.9900     0.0483     0.2126

       3     -0.0024    -0.0192     1.0000    -0.0928    -0.3555    -0.0797    -0.1588    -0.0240     0.9766    -0.0894

       4      0.2288     0.1860    -0.0928     1.0000    -0.3014    -0.0675    -0.1347     0.1939    -0.0857     0.9900

       5     -0.0836     0.2026    -0.3555    -0.3014     1.0000    -0.2588    -0.5159     0.1936    -0.3282    -0.2905

       6     -0.0904    -0.1052    -0.0797    -0.0675    -0.2588     1.0000    -0.1156    -0.1117    -0.0735    -0.0651

       7      0.1915     0.2368    -0.1588    -0.1347    -0.5159    -0.1156     1.0000     0.2428    -0.1466    -0.1298

       8      0.3781     0.9900    -0.0240     0.1939     0.1936    -0.1117     0.2428     1.0000     0.0451     0.2231

       9      0.0264     0.0483     0.9766    -0.0857    -0.3282    -0.0735    -0.1466     0.0451     1.0000    -0.0826

      10      0.2337     0.2126    -0.0894     0.9900    -0.2905    -0.0651    -0.1298     0.2231    -0.0826     1.0000

      11     -0.0148     0.3622    -0.3151    -0.2672     0.9698    -0.2294    -0.4573     0.3592    -0.2909    -0.2575

      12     -0.0900    -0.0553    -0.0740    -0.0627    -0.2403     0.9782    -0.1074    -0.0646    -0.0683    -0.0605

      13      0.2094     0.2939    -0.1505    -0.1276    -0.4887    -0.1095     0.9853     0.3046    -0.1389    -0.1229
```

15	0.2171	0.1434	-0.0945	0.9820	-0.3069	-0.0688	-0.1371	0.1498	-0.0872	0.9463
16	-0.1796	-0.0580	-0.3783	-0.3208	0.9395	-0.2754	-0.5491	-0.0604	-0.3493	-0.3091
17	-0.0860	-0.1603	-0.0821	-0.0696	-0.2667	0.9702	-0.1192	-0.1610	-0.0758	-0.0671
18	0.1590	0.1476	-0.1630	-0.1382	-0.5295	-0.1187	0.9743	0.1505	-0.1505	-0.1332

R MATRIX	11	12	13	14	15	16	17	18
1	-0.0148	-0.0900	0.2094	-0.0369	0.2171	-0.1796	-0.0860	0.1590
2	0.3622	-0.0553	0.2939	-0.0987	0.1434	-0.0580	-0.1603	0.1476
3	-0.3151	-0.0740	-0.1505	0.9687	-0.0945	-0.3783	-0.0821	-0.1630
4	-0.2672	-0.0627	-0.1276	-0.0958	0.9820	-0.3208	-0.0696	-0.1392
5	0.9698	-0.2403	-0.4887	-0.3670	-0.3069	0.9395	-0.2667	-0.5295
6	-0.2294	0.9782	-0.1095	-0.0822	-0.0688	-0.2754	0.9702	-0.1187
7	-0.4573	-0.1074	0.9853	-0.1640	-0.1371	-0.5491	-0.1192	0.9743
8	0.3592	-0.0646	0.3046	-0.1026	0.1488	-0.0604	-0.1610	0.1505
9	-0.2909	-0.0683	-0.1389	0.9843	-0.0872	-0.3493	-0.0758	-0.1505
10	-0.2575	-0.0605	-0.1229	-0.0923	0.9463	-0.3091	-0.0671	-0.1332
11	1.0000	-0.2131	-0.4333	-0.3253	-0.2721	0.8329	-0.2364	-0.4694
12	-0.2131	1.0000	-0.1017	-0.0764	-0.0639	-0.2558	0.9012	-0.1102
13	-0.4333	-0.1017	1.0000	-0.1553	-0.1299	-0.5202	-0.1129	0.9230
14	-0.3253	-0.0764	-0.1553	1.0000	-0.0975	-0.3906	-0.0848	-0.1683
15	-0.2721	-0.0639	-0.1299	-0.0975	1.0000	-0.3267	-0.0709	-0.1407
16	0.8329	-0.2558	-0.5202	-0.3906	-0.3267	1.0000	-0.2839	-0.5635
17	-0.2364	0.9012	-0.1129	-0.0848	-0.0709	-0.2839	1.0000	-0.1223
18	-0.4694	-0.1102	0.9230	-0.1683	-0.1407	-0.5635	-0.1223	1.0000

```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 7  9-18

R = 0.4447       RSQ = 0.1978          77 ITERATIONS.

   V        BETA         B
   3      0.0         0.0
   4      0.0         0.0
   5      0.0116      0.0004
   6      0.0         0.0
   7      0.0         0.0
   9      0.2779      0.0004
  10      0.2983      0.0004
  11      0.4301      0.0003
  12     -0.0524     -0.0001
  13      0.4399      0.0004
  14     -0.0271     -0.0498
  15      0.1345      0.2862
  16     -0.0371     -0.0420
  17      0.1566      0.3762
  18      0.0494      0.0701
REG. CONST. =         0.8706


MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 8 14-18

R = 0.4450       RSQ = 0.1980          83 ITERATIONS.

   V        BETA         B
   3      0.1213      0.0068
   4      0.0         0.0
   5      0.0780      0.0025
   6     -0.3205     -0.0258
   7      0.2105      0.0079
   8      0.2971      0.0003
  14     -0.0318     -0.0583
  15      0.2373      0.5047
  16      0.0         0.0
  17      0.3427      0.8236
  18      0.0         0.0
REG. CONST. =         0.7879
```

80.71

```
MODEL   3 M3   CRITERION =  1

PREDICTORS =   3- 7 14-18

R = 0.4458       RSQ = 0.1988          63 ITERATIONS.

   V        BETA         B
   3     0.4741     0.0265
   4     0.5629     0.0307
   5     0.7149     0.0225
   6    -0.0625    -0.0050
   7     0.7435     0.0280
  14    -0.0304    -0.0559
  15     0.0427     0.0908
  16    -0.0047    -0.0053
  17     0.3295     0.7916
  18     0.0        0.0
REG. CONST. =       0.4903


MODEL   4 M4   CRITERION =  1

PREDICTORS =   2- 2 14-18

R = 0.4342       RSQ = 0.1886           7 ITERATIONS.

   V        BETA         B
   2     0.3327     0.0230
  14     0.0413     0.0759
  15     0.1935     0.4115
  16     0.0        0.0
  17     0.0        0.0
  18     0.1425     0.2019
REG. CONST. =       0.4697
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.3771      RSQ = 0.1422           1 ITERATIONS.

  V       BETA        B
  2    0.3771     0.0261
REG. CONST. =     0.4433


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.1978       MODEL  1
RSQ REDUCED = 0.1980       MODEL  2
DIFFERENCE = -0.0002
DFN =  4.       DFD =  502.      F-RATIO =    0.0      P = 1.0000


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.1980       MODEL  2
RSQ REDUCED = 0.1988       MODEL  3
DIFFERENCE = -0.0008
DFN =  1.       DFD =  506.      F-RATIO =    0.0      P = 1.0000


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.1988       MODEL  3
RSQ REDUCED = 0.1886       MODEL  4
DIFFERENCE =  0.0102
DFN =  4.       DFD =  507.      F-RATIO =    1.614    P = 0.1682


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.1886       MODEL  4
RSQ REDUCED = 0.1422       MODEL  5
DIFFERENCE =  0.0464
DFN =  4.       DFD =  511.      F-RATIO =    7.306    P = 0.0001
```

```
    *** OUTPUT FRCM PROGRAM REGRAN ***

ANALYSIS 1 -- ITBS-SWP VS TI VS FTI -- GRADE 2                                  0970

PARAMETERS
CCL  1- 5 =    18
CPL  6-10 =   423
CCL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                       0990

INTERCORRELATION ANALYSIS.

MEANS            1         2         3         4         5         6         7         8         9        10
            1.8766    1.0660    0.1402    0.0664    0.5716    0.0830    0.2047    1.2682    0.1701    0.0842

MEANS           11        12        13        14        15        16        17        18
            0.[illegible]773    0.0948    0.2418    0.1253    0.0567    0.5296    0.0851    0.2033


SIGMAS           1         2         3         4         5         6         7         8         9        10
            0.6216    0.3632    0.3879    0.2824    0.5921    0.2965    0.4471    0.6495    0.4996    0.3793

SIGMAS          11        12        13        14        15        16        17        18
            0.7846    0.3688    0.5683    0.3311    0.2313    0.4991    0.2790    0.4025


R MATRIX         1         2         3         4         5         6         7         8         9        10

       1    1.0000    0.2011    0.2101   -0.0012    0.0380   -0.1308    0.0183    0.2176    0.2104    0.0181

       2    0.2011    1.0000    0.1469    0.1303    0.3161    0.0587    0.1451    0.9560    0.1813    0.1559

       3    0.2101    0.1469    1.0000   -0.0850   -0.3489   -0.1011   -0.1655    0.1448    0.9825   -0.0802

       4   -0.0012    0.1303   -0.0850    1.0000   -0.2271   -0.0658   -0.1077    0.1470   -0.0801    0.9859

       5    0.0380    0.3161   -0.3489   -0.2271    1.0000   -0.2702   -0.4421    0.2963   -0.3288   -0.2143

       6   -0.1308    0.0587   -0.1011   -0.0658   -0.2702    1.0000   -0.1282    0.0475   -0.0953   -0.0621

       7    0.0183    0.1451   -0.1655   -0.1077   -0.4421   -0.1282    1.0000    0.1343   -0.1559   -0.1016

       8    0.2176    0.9560    0.1448    0.1470    0.2963    0.0475    0.1343    1.0000    0.1935    0.1794

       9    0.2104    0.1813    0.9825   -0.0801   -0.3288   -0.0953   -0.1559    0.1935    1.0000   -0.0756

      10    0.0181    0.1559   -0.0802    0.9859   -0.2143   -0.0621   -0.1016    0.1794   -0.0756    1.0000

      11    0.0697    0.4103   -0.3120   -0.2031    0.9725   -0.2416   -0.3953    0.4225   -0.2940   -0.1916

      12   -0.1211    0.0996   -0.0929   -0.0604   -0.2481    0.9741   -0.1177    0.1036   -0.0875   -0.0570

      13    0.0340    0.1981   -0.1538   -0.1001   -0.4100   -0.1191    0.9806    0.2925   -0.1449   -0.0944

      14    0.1831    0.0551    0.9548   -0.0820   -0.3654   -0.1059   -0.1753    0.0523    0.8998   -0.0940
```

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```
MODEL   1 M1  CRITERION =   1

PREDICTORS =  3- 7  9-18

R = 0.3292      RSQ = 0.1084         324 ITERATIONS.

  V       BETA         B
  3     0.4163      0.6671
  4    -0.6921     -1.5232
  5     0.0         0.0
  6     0.0246      0.0516
  7    -0.5671     -0.7884
  9    -0.0291     -0.0362
 10     0.6564      1.0756
 11     0.2766      0.2191
 12    -0.0052     -0.0087
 13     0.5554      0.6076
 14    -0.1300     -0.2440
 15     0.1051      0.2825
 16    -0.1197     -0.1490
 17    -0.0857     -0.1909
 18     0.1400      0.2163
REG. CONST. =       1.7282


MODEL   2 M2  CRITERION =   1

PREDICTORS =  3- 8 14-18

R = 0.3128      RSQ = 0.0979         32 ITERATIONS.

  V       BETA         B
  3     0.1831      0.2934
  4     0.0         0.0
  5     0.0         0.0
  6    -0.1340     -0.2809
  7    -0.0935     -0.1300
  8     0.2212      0.2117
 14    -0.0202     -0.0380
 15    -0.0309     -0.0831
 16    -0.0052     -0.0064
 17     0.0081      0.0179
 18     0.0990      0.1529
REG. CONST. =       1.5971
```

```
MODEL   3 M3   CRITERION =  1

PREDICTORS =   3- 7 14-18

R = 0.3049       RSQ = 0.0929            81 ITERATIONS.

  V        BETA         B
  3      0.4295      0.6883
  4      0.1745      0.3840
  5      0.3587      0.3766
  6      0.0049      0.0103
  7      0.1422      0.1977
 14     -0.1115     -0.2094
 15     -0.0862     -0.2317
 16     -0.1268     -0.1579
 17     -0.0188     -0.0419
 18      0.0384      0.0593
REG. CONST. =        1.6125


MODEL   4 M4   CRITERION =  1

PREDICTORS =   2- 2 14-18

R = 0.2894       RSQ = 0.0838             6 ITERATIONS.

  V        BETA         B
  2      0.1872      0.3204
 14      0.1611      0.3025
 15     -0.0261     -0.0702
 16      0.0         0.0
 17     -0.1113     -0.2480
 18      0.0206      0.0318
REG. CONST. =        1.5158
```

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80.71




MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.2011      RSQ = 0.0404          1 ITERATIONS.

  V      BETA       B
  2    0.2011    0.3441
REG. CONST. =    1.5098


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.1084      MODEL  1
RSQ REDUCED = 0.0979      MODEL  2
DIFFERENCE =  0.0105
DFN =  4.      DFD =  408.      F-RATIO =    1.204    P = 0.3080


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.0979      MODEL  2
RSQ REDUCED = 0.0929      MODEL  3
DIFFERENCE =  0.0049
DFN =  1.      DFD =  412.      F-RATIO =    2.248    P = 0.1305


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.0929      MODEL  3
RSQ REDUCED = 0.0838      MODEL  4
DIFFERENCE =  0.0092
DFN =  4.      DFD =  413.      F-RATIO =    1.045    P = 0.3843


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.0838      MODEL  4
RSQ REDUCED = 0.0404      MODEL  5
DIFFERENCE =  0.0433
DFN =  4.      DFD =  417.      F-RATIO =    4.930    P = 0.0010
```

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 7  9-18

R = 0.5759       RSQ = 0.3316          52 ITERATIONS.

  V       BETA        B
  3     0.0302     0.0318
  4     0.0        0.0
  5     0.0        0.0
  6     0.0        0.0
  7     0.0        0.0
  9     0.5426     0.2796
 10     0.3979     0.2707
 11     0.6559     0.2284
 12     0.1152     0.0951
 13     0.3766     0.1998
 14     0.0        0.0
 15    -0.0496    -0.1096
 16    -0.0051    -0.0068
 17     0.0235     0.0580
 18     0.0704     0.1339
REG. CONST. =      1.8825


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 8 14-18

R = 0.5766       RSQ = 0.3325          63 ITERATIONS.

  V       BETA        B
  3     0.2550     0.2689
  4     0.0748     0.0974
  5     0.0071     0.0052
  6    -0.3035    -0.4577
  7    -0.0575    -0.0606
  8     0.5087     0.2242
 14    -0.1188    -0.2246
 15    -0.0595    -0.1313
 16     0.0        0.0
 17     0.1777     0.4381
 18     0.0842     0.1602
REG. CONST. =      1.8798
```

```
MODEL   3 M3   CRITERION =  1

PREDICTORS =   3- 7 14-18

R = 0.5760       RSQ = 0.3318          163 ITERATIONS.

  V        BETA         B
  3      1.0171      1.0727
  4      0.6794      0.8848
  5      1.0756      0.7819
  6      0.1821      0.2747
  7      0.5436      0.5734
 14     -0.3582     -0.6772
 15     -0.2534     -0.5595
 16     -0.3094     -0.4131
 17      0.0402      0.0992
 18      0.0         0.0
REG. CONST. =        1.6624


MODEL   4 M4   CRITERION =  1

PREDICTORS =   2- 2 14-18

R = 0.5627       RSQ = 0.3166            7 ITERATIONS.

  V        BETA         B
  2      0.5218      0.7840
 14      0.1101      0.2081
 15     -0.0055     -0.0123
 16     -0.0206     -0.0275
 17     -0.1271     -0.3134
 18      0.0110      0.0209
REG. CONST. =        1.2737
```

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80.71
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5329      RSQ = 0.2840          1 ITERATIONS.

  V      BETA         B
  2    0.5329      0.8006
REG. CONST. =      1.2379


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.3316       MODEL  1
RSQ REDUCED = 0.3325         MODEL  2
DIFFERENCE = -0.0009
DFN =  4.       DFD =  439.      F-RATIO =    0.0      P = 1.0000


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.3325       MODEL  2
RSQ REDUCED = 0.3318         MODEL  3
DIFFERENCE =  0.0007
DFN =  1.       DFD =  443.      F-RATIO =    0.493    P = 0.4903


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.3318       MODEL  3
RSQ REDUCED = 0.3166         MODEL  4
DIFFERENCE =  0.0151
DFN =  4.       DFD =  444.      F-RATIO =    2.515    P = 0.0403


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.3166       MODEL  4
RSQ REDUCED = 0.2840         MODEL  5
DIFFERENCE =  0.0326
DFN =  4.       DFD =  448.      F-RATIO =    5.348    P = 0.0006
```

```
  15      -0.0204    0.0708   -0.0886    0.9590   -0.2368   -0.0686   -0.1123    0.0814   -0.0835    0.9049
  16      -0.0271    0.0395   -0.3834   -0.2495    0.9100   -0.2970   -0.4858    0.0177   -0.3613   -0.2355
  17      -0.1453   -0.0764   -0.1102   -0.0717   -0.2945    0.9177   -0.1397   -0.0726   -0.1039   -0.0677
  18      -0.0046   -0.0820   -0.1826   -0.1188   -0.4877   -0.1414    0.9065   -0.0614   -0.1720   -0.1121

R MATRIX    11        12        13        14        15        16        17        18
   1       0.0697   -0.1211    0.0340    0.1831   -0.0204   -0.0271   -0.1453   -0.0046
   2       0.4103    0.0996    0.1981    0.0551    0.0708    0.0395   -0.0764   -0.0820
   3      -0.3120   -0.0929   -0.1538    0.9548   -0.0886   -0.3834   -0.1102   -0.1826
   4      -0.2031   -0.0604   -0.1001   -0.0890    0.9590   -0.2495   -0.0717   -0.1188
   5       0.9725   -0.2481   -0.4108   -0.3654   -0.2368    0.9100   -0.2945   -0.4877
   6      -0.2416    0.9741   -0.1191   -0.1059   -0.0686   -0.2970    0.9177   -0.1414
   7      -0.3953   -0.1177    0.9806   -0.1733   -0.1123   -0.4858   -0.1397    0.9065
   8       0.4225    0.1036    0.2025    0.0523    0.0814    0.0177   -0.0726   -0.0614
   9      -0.2940   -0.0875   -0.1449    0.8998   -0.0835   -0.3613   -0.1039   -0.1720
  10      -0.1916   -0.0570   -0.0944   -0.0840    0.9049   -0.2355   -0.0677   -0.1121
  11       1.0000   -0.2218   -0.3673   -0.3267   -0.2117    0.8137   -0.2633   -0.4361
  12      -0.2218    1.0000   -0.1093   -0.0973   -0.0630   -0.2726    0.8425   -0.1298
  13      -0.3673   -0.1093    1.0000   -0.1610   -0.1044   -0.4514   -0.1298    0.8423
  14      -0.3267   -0.0973   -0.1610    1.0000   -0.0928   -0.4015   -0.1154   -0.1912
  15      -0.2117   -0.0630   -0.1044   -0.0929    1.0000   -0.2602   -0.0748   -0.1239
  16       0.8137   -0.2726   -0.4514   -0.4015   -0.2602    1.0000   -0.3236   -0.5360
  17      -0.2633    0.8425   -0.1298   -0.1154   -0.0748   -0.3236    1.0000   -0.1541
  18      -0.4361   -0.1298    0.8423   -0.1912   -0.1239   -0.5360   -0.1541    1.0000
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

   ANALYSIS 1 -- ITBS-SWP VS TI VS FTI -- GRADE 3                                          1090

   PARAMETERS
   COL  1- 5 =    18
   COL  6-10 =   454
   COL 11-15 =     5
   CCL 16-20 =     4
   COL 21-25 =     1

   DATA FORMAT = (DUMMY)                                                                          1110

   INTERCORRELATION ANALYSIS.

   MEANS          1          2          3          4          5          6          7          8          9         10
               2.6015     1.7033     0.2491     0.1654     0.9141     0.1253     0.2493     3.0979     0.4612     0.2891

   MEANS         11         12         13         14         15         16         17         18
               1.6756     0.2109     0.4612     0.1454     0.1013     0.5308     0.0793     0.1432


   SIGMAS         1          2          3          4          5          6          7          8          9         10
               0.6663     0.4435     0.6317     0.5116     0.9166     0.4418     0.6317     1.5117     1.2930     0.9794

   SIGMAS        11         12         13         14         15         16         17         18
               1.9136     0.8071     1.2558     0.3525     0.3318     0.4990     0.2702     0.3502

   R MATRIX       1          2          3          4          5          6          7          8          9         10

        1      1.0000     0.5329     0.2162     0.0232     0.1220    -0.1613     0.0750     0.5373     0.2600     0.0668

        2      0.5329     1.0000     0.1315     0.0323     0.2919    -0.0134     0.1302     0.9909     0.2162     0.0997

        3      0.2162     0.1315     1.0000    -0.1275    -0.3933    -0.1119    -0.1557     0.1443     0.9728    -0.1164

        4      0.0232     0.0323    -0.1275     1.0000    -0.3225    -0.0917    -0.1276     0.0301    -0.1153     0.9737

        5      0.1220     0.2919    -0.3933    -0.3225     1.0000    -0.2829    -0.3937     0.2864    -0.3557    -0.2944

        6     -0.1613    -0.0134    -0.1119    -0.0917    -0.2829     1.0000    -0.1120    -0.0206    -0.1012    -0.0837

        7      0.0750     0.1302    -0.1557    -0.1276    -0.3937    -0.1120     1.0000     0.1260    -0.1408    -0.1165

        8      0.5373     0.9909     0.1443     0.0301     0.2864    -0.0206     0.1260     1.0000     0.2333     0.0994

        9      0.2600     0.2162     0.9728    -0.1153    -0.3557    -0.1012    -0.1408     0.2333     1.0000    -0.1053

       10      0.0668     0.0997    -0.1164     0.9737    -0.2944    -0.0837    -0.1165     0.0994    -0.1053     1.0000

       11      0.2061     0.4412    -0.3453    -0.2831     0.9675    -0.2484    -0.3456     0.4420    -0.3123    -0.2585

       12     -0.1384     0.0429    -0.1030    -0.0845    -0.2606     0.9763    -0.1031     0.0349    -0.0932    -0.0771

                                            -0.1187    -0.3663    -0.1042     0.9805     0.1901    -0.1310    -0.1084
```

15	-0.0304	-0.0535	-0.1324	0.9630	-0.3349	-0.0953	-0.1325	-0.0543	-0.1198	0.8791
16	-0.0078	0.0448	-0.4195	-0.3439	0.9376	-0.3018	-0.4199	0.0413	-0.3794	-0.3140
17	-0.1781	-0.0812	-0.1157	-0.0949	-0.2927	0.9667	-0.1158	-0.0852	-0.1047	-0.0866
18	0.0359	0.0352	-0.1612	-0.1322	-0.4077	-0.1160	0.9656	0.0333	-0.1458	-0.1207

R MATRIX	11	12	13	14	15	16	17	18
1	0.2061	-0.1384	0.1019	0.1379	-0.0304	-0.0078	-0.1781	0.0359
2	0.4412	0.0429	0.1925	0.0096	-0.0535	0.0448	-0.0812	0.0352
3	-0.3453	-0.1030	-0.1448	0.9561	-0.1324	-0.4195	-0.1157	-0.1612
4	-0.2831	-0.0845	-0.1187	-0.1334	0.9630	-0.3439	-0.0949	-0.1322
5	0.9675	-0.2606	-0.3663	-0.4113	-0.3349	0.9376	-0.2927	-0.4077
6	-0.2484	0.9763	-0.1042	-0.1170	-0.0953	-0.3018	0.9667	-0.1160
7	-0.3456	-0.1031	0.9805	-0.1628	-0.1325	-0.4199	-0.1158	0.9656
8	0.4420	0.0349	0.1901	0.0203	-0.0543	0.0413	-0.0852	0.0333
9	-0.3123	-0.0932	-0.1310	0.8647	-0.1198	-0.3794	-0.1047	-0.1458
10	-0.2585	-0.0771	-0.1084	-0.1217	0.8791	-0.3140	-0.0866	-0.1207
11	1.0000	-0.2288	-0.3216	-0.3611	-0.2940	0.8232	-0.2570	-0.3579
12	-0.2288	1.0000	-0.0959	-0.1078	-0.0877	-0.2779	0.8902	-0.1068
13	-0.3216	-0.0959	1.0000	-0.1515	-0.1233	-0.3906	-0.1078	0.8984
14	-0.3611	-0.1078	-0.1515	1.0000	-0.1385	-0.4387	-0.1210	-0.1686
15	-0.2940	-0.0877	-0.1233	-0.1385	1.0000	-0.3572	-0.0985	-0.1373
16	0.8232	-0.2779	-0.3906	-0.4387	-0.3572	1.0000	-0.3122	-0.4348
17	-0.2570	0.8902	-0.1078	-0.1210	-0.0985	-0.3122	1.0000	-0.1200
18	-0.3579	-0.1068	0.8984	-0.1686	-0.1373	-0.4348	-0.1200	1.0000

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80.71

```
        *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 1 -- ITBS-SWP VS TI VS FTI -- GRADE 4                            1210

PARAMETERS
COL  1- 5 =    18
COL  6-10 =   503
COL 11-15 =     5
CCL 16-20 =     4
CCL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                  1230


INTERCORRELATION ANALYSIS.

MEANS           1          2         3          4          5          6          7          8         9          10
           3.2483     2.5332    0.0        0.1487     1.3863     0.4638     0.5344     6.7238    0.0         0.4023

MEANS          11         12        13         14         15         16         17         18
           3.8228     1.1133    1.3853     0.0        0.0577     0.5249     0.2028     0.2147


SIGMAS          1          2         3          4          5          6          7          8         9          10
           0.8354     0.5538   -0.0        0.6166     1.3788     0.9477     1.0487     2.7850   -0.0         1.7728

SIGMAS         11         12        13         14         15         16         17         18
           4.1780     2.4418    2.9103    -0.0        0.2331     0.4994     0.4021     0.4106


R MATRIX        1          2         3          4          5          6          7          8         9          10

      1    1.0000     0.6854    0.0        0.1319     0.3346    -0.1883     0.0146     0.6932    0.0         0.1538

      2    0.6854     1.0000    0.0        0.0750     0.4075    -0.1175     0.0544     0.9907    0.0         0.1168

      3    0.0        0.0       1.0000     0.0        0.0        0.0        0.0        0.0       0.0         0.0

      4    0.1319     0.0750    0.0        1.0000    -0.2425    -0.1180    -0.1229     0.0780    0.0         0.9825

      5    0.3346     0.4075    0.0       -0.2425     1.0000    -0.4921    -0.5124     0.4151    0.0        -0.2282

      6   -0.1883    -0.1175    0.0       -0.1180    -0.4921     1.0000    -0.2494    -0.1271    0.0        -0.1111

      7    0.0146     0.0544    0.0       -0.1229    -0.5124    -0.2494     1.0000     0.0464    0.0        -0.1156

      8    0.6932     0.9907    0.0        0.0780     0.4151    -0.1271     0.0464     1.0000    0.0         0.1214

      9    0.0        0.0       0.0        0.0        0.0        0.0        0.0        0.0       1.0000      0.0

     10    0.1538     0.1168    0.0        0.9825    -0.2282    -0.1111    -0.1156     0.1214    0.0         1.0000

     11    0.4162     0.53[illegible]0    0.0       -0.2207     0.9748    -0.4478    -0.4663     0.5471    0.0        -0.2076

     12   -0.1280    -0.0273    0.0       -0.1100    -0.4584     0.7796    -0.2323    -0.0417    0.0        -0.1035

     13    0.0796     0.1361    0.0       -0.1148    -0.4786    -0.2330     0.9791     0.1326    0.0        -0.1089

     14    0.0        0.0       0.0        0.0        0.0        0.0        0.0        0.0       0.0         0.0
```

80.71

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15	0.0990	0.0206	0.0	0.9750	-0.2487	-0.1211	-0.1260	0.0226	0.0	0.9175
16	0.1994	0.2051	0.0	-0.2535	0.9566	-0.5144	-0.5356	0.2113	0.0	-0.2385
17	-0.2494	-0.2240	0.0	-0.1216	-0.5071	0.9704	-0.2570	-0.2234	0.0	-0.1145
18	-0.0546	-0.0418	0.0	-0.1261	-0.5257	-0.2559	0.9745	-0.0510	0.0	-0.1187

80.71

Q MATRIX	11	12	13	14	15	16	17	18
1	0.4162	-0.1280	0.0796	0.0	0.0990	0.1994	-0.2494	-0.0546
2	0.5320	-0.0273	0.1361	0.0	0.0206	0.2051	-0.2240	-0.0418
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	-0.2207	-0.1100	-0.1148	0.0	0.9750	-0.2535	-0.1216	-0.1261
5	0.9748	-0.4584	-0.4786	0.0	-0.2487	0.9566	-0.5071	-0.5257
6	-0.4478	0.9796	-0.2330	0.0	-0.1211	-0.5144	0.9704	-0.2559
7	-0.4663	-0.2323	0.9791	0.0	-0.1260	-0.5356	-0.2570	0.9745
8	0.5471	-0.0417	0.1326	0.0	0.0226	0.2113	-0.2234	-0.0510
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	-0.2076	-0.1035	-0.1080	0.0	0.9175	-0.2385	-0.1145	-0.1187
11	1.0000	-0.4172	-0.4355	0.0	-0.2263	0.8706	-0.4615	-0.4784
12	-0.4172	1.0000	-0.2170	0.0	-0.1128	-0.4792	0.9040	-0.2384
13	-0.4355	-0.2170	1.0000	0.0	-0.1177	-0.5003	-0.2401	0.9103
14	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	0.0
15	-0.2263	-0.1128	-0.1177	0.0	1.0000	-0.2600	-0.1247	-0.1293
16	0.8706	-0.4792	-0.5003	0.0	-0.2600	1.0000	-0.5301	-0.5496
17	-0.4615	0.9040	-0.2401	0.0	-0.1247	-0.5301	1.0000	-0.2637
18	-0.4784	-0.2384	0.9103	0.0	-0.1293	-0.5496	-0.2637	1.0000

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```
80.71
 MODEL   1 M1   CRITERION =  1

 PREDICTORS =  4- 7 10-13 15-18

 R = 0.7053       RSQ = 0.4974          87 ITERATIONS.

    V        BETA        B
    4     0.0         0.0
    5     0.0         0.0
    6     0.0         0.0
    7     0.0         0.0
   10     0.4253      0.2004
   11     1.0136      0.2027
   12     0.5194      0.1777
   13     0.7349      0.2109
   15     0.0404      0.1446
   16    -0.0612     -0.1025
   17    -0.0807     -0.1677
   18    -0.1138     -0.2314
 REG. CONST. =        2.0320


 MODEL   2 M2   CRITERION =  1

 PREDICTORS =  4- 8 15-18

 R = 0.7052       RSQ = 0.4973           6 ITERATIONS.

    V        BETA        B
    4    -0.0075     -0.0102
    5     0.0         0.0
    6    -0.1043     -0.0920
    7     0.0         0.0
    8     0.6770      0.2031
   15     0.0734      0.2632
   16     0.0         0.0
   17     0.0         0.0
   18    -0.0378     -0.0770
 REG. CONST. =        1.9285


 MODEL   3 M3   CRITERION =  1

 PREDICTORS =  4- 7 15-18

 R = 0.6998       RSQ = 0.4897         191 ITERATIONS.

    V        BETA        B
    4     0.7147      0.9683
    5     1.7368      1.0523
    6     0.8856      0.7806
    7     1.2938      1.0306
   15     0.0         0.0
   16    -0.2730     -0.4567
   17    -0.0143     -0.0297
   18    -0.2388     -0.4859
 REG. CONST. =        1.0828
```

80.71

```
MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2 16-18

R = 0.6977      RSQ = 0.4867          16 ITERATIONS.

  V       BETA        B
  2     0.6585     0.9933
 16    -0.1304    -0.2181
 17    -0.2124    -0.4414
 18    -0.1547    -0.3147
REG. CONST. =      1.0036


MODEL   5 M5   CRITERION =  1

PREDICTORS =  2- 2

R = 0.6854      RSQ = 0.4698           1 ITERATIONS.

  V       BETA        B
  2     0.6854     1.0340
REG. CONST. =      0.6291


F-TEST  1    MODEL 1 VS MODEL 2
RSQ FULL =       0.4974       MODEL  1
RSQ REDUCED = 0.4973       MODEL  2
DIFFERENCE =  0.0001
DFN =  3.       DFD =  491.      F-RATIO =    0.039    P = 0.9892


F-TEST  2    MODEL 2 VS MODEL 3
RSQ FULL =       0.4973       MODEL  2
RSQ REDUCED = 0.4897       MODEL  3
DIFFERENCE =  0.0075
DFN =  1.       DFD =  494.      F-RATIO =    7.403    P = 0.0068


F-TEST  3    MODEL 3 VS MODEL 4
RSQ FULL =       0.4897       MODEL  3
RSQ REDUCED = 0.4867       MODEL  4
DIFFERENCE =  0.0030
DFN =  3.       DFD =  495.      F-RATIO =    0.970    P = 0.4078


F-TEST  4    MODEL 4 VS MODEL 5
RSQ FULL =       0.4867       MODEL  4
RSQ REDUCED = 0.4698       MODEL  5
DIFFERENCE =  0.0169
DFN =  3.       DFD =  498.      F-RATIO =    5.479    P = 0.0014
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

   ANALYSIS 1 -- ITBS-SWP VS TI VS FTI -- GRADE 5                                1330

   PARAMETERS
   COL  1- 5 =     18
   COL  6-10 =    471
   COL 11-15 =      5
   COL 16-20 =      4
   COL 21-25 =      1

   DATA FORMAT = (DUMMY)                                                                      1350

   INTERCORRELATION ANALYSIS.

   MEANS            1          2         3          4          5          6          7          8          9          10
                 4.0331     3.1692     0.0       0.1766     1.6815     0.4724     0.8386    10.6296     0.0        0.6411

   MEANS           11         12        13         14         15         16         17         18
                 5.8556     1.4042    2.7287     0.0        0.0510     0.5074     0.1720     0.2696

   SIGMAS           1          2         3          4          5          6          7          8          9          10
                 0.9981     0.7653    -0.0       0.7810     1.7401     1.0868     1.4232     4.6686    -0.0        2.9809

   SIGMAS          11         12        13         14         15         16         17         18
                 6.6699     3.5693    4.9553    -0.0        0.2199     0.4999     0.3774     0.4438

   R MATRIX         1          2          3          4          5          6          7          8          9         10
         1       1.0000     0.7643     0.0        0.1929     0.3401    -0.1704     0.0193     0.7747     0.0        0.2077
         2       0.7643     1.0000     0.0        0.1360     0.3953    -0.1117     0.0651     0.9885     0.0        0.1654
         3       0.0        0.0        1.0000     0.0        0.0        0.0        0.0        0.0        0.0        0.0
         4       0.1929     0.1360     0.0        1.0000    -0.2186    -0.0983    -0.1333     0.1458     0.0        0.9862
         5       0.3401     0.3953     0.0       -0.2186     1.0000    -0.4200    -0.5694     0.4053     0.0       -0.2078
         6      -0.1704    -0.1117     0.0       -0.0983    -0.4200     1.0000    -0.2561    -0.1150     0.0       -0.0935
         7       0.0193     0.0651     0.0       -0.1333    -0.5694    -0.2561     1.0000     0.0439     0.0       -0.1267
         8       0.7747     0.9885     0.0        0.1458     0.4053    -0.1150     0.0439     1.0000     0.0        0.1783
         9       0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.0        1.0000     0.0
        10       0.2077     0.1654     0.0        0.9862    -0.2078    -0.0935    -0.1267     0.1783     0.0        1.0000
        11       0.4370     0.5111     0.0       -0.1986     0.9753    -0.3816    -0.5173     0.5309     0.0       -0.1888
        12      -0.0937    -0.0046     0.0       -0.0890    -0.3802     0.9730    -0.2318    -0.0129     0.0       -0.0946
        13       0.0842     0.1472     0.0       -0.1246    -0.5321    -0.2394     0.9809     0.1295     0.0       -0.1184
        14       0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.0
```

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```
   15      0.1616    0.0901    0.0      0.9762   -0.2239   -0.1007   -0.1365    0.0969    0.0       0.9282
   16      0.1808    0.1918    0.0     -0.2296    0.9521   -0.4412   -0.5981    0.1978    0.0      -0.2183
   17     -0.2575   -0.2515    0.0     -0.1031   -0.4404    0.9538   -0.2686   -0.2406    0.0      -0.0980
   18     -0.0647   -0.0468    0.0     -0.1374   -0.5871   -0.2641    0.9698   -0.0663    0.0      -0.1307

R MATRIX     11        12        13        14        15        16        17        18
    1      0.4370   -0.0937    0.0842    0.0       0.1616    0.1808   -0.2575   -0.0647
    2      0.5111   -0.0046    0.1472    0.0       0.0901    0.1918   -0.2515   -0.0468
    3      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
    4     -0.1986   -0.0890   -0.1246    0.0       0.9762   -0.2296   -0.1031   -0.1374
    5      0.9753   -0.3802   -0.5321    0.0      -0.2239    0.9521   -0.4404   -0.5871
    6     -0.3816    0.9730   -0.2394    0.0      -0.1007   -0.4412    0.9538   -0.2641
    7     -0.5173   -0.2318    0.9809    0.0      -0.1365   -0.5981   -0.2686    0.9698
    8      0.5309   -0.0129    0.1295    0.0       0.0969    0.1978   -0.2406   -0.0663
    9      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
   10     -0.1888   -0.0846   -0.1184    0.0       0.9282   -0.2183   -0.0980   -0.1307
   11      1.0000   -0.3454   -0.4834    0.0      -0.2034    0.8650   -0.4001   -0.5334
   12     -0.3454    1.0000   -0.2166    0.0      -0.0912   -0.3993    0.8633   -0.2390
   13     -0.4834   -0.2166    1.0000    0.0      -0.1276   -0.5589   -0.2510    0.9063
   14      0.0       0.0       0.0       1.0000    0.0       0.0       0.0       0.0
   15     -0.2034   -0.0912   -0.1276    0.0       1.0000   -0.2352   -0.1056   -0.1408
   16      0.8650   -0.3993   -0.5589    0.0      -0.2352    1.0000   -0.4626   -0.6167
   17     -0.4001    0.8633   -0.2510    0.0      -0.1056   -0.4626    1.0000   -0.2769
   18     -0.5334   -0.2390    0.9063    0.0      -0.1408   -0.6167   -0.2769    1.0000
```

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =   4- 7 10-13 15-18

R = 0.7842      RSQ = 0.6149          85 ITERATIONS.

  V        BETA        B
  4      0.0816      0.1043
  5      0.0         0.0
  6      0.0         0.0
  7      0.0         0.0
 10      0.3942      0.1320
 11      1.1242      0.1682
 12      0.4933      0.1379
 13      0.7845      0.1580
 15      0.0402      0.1824
 16     -0.1220     -0.2436
 17     -0.0638     -0.1688
 18     -0.0819     -0.1842
REG. CONST. =        2.5132


MODEL   2 M2   CRITERION =  1

PREDICTORS =   4- 8 15-18

R = 0.7837      RSQ = 0.6142          22 ITERATIONS.

  V        BETA        B
  4     -0.0274     -0.0350
  5      0.0342      0.0196
  6     -0.0986     -0.0905
  7      0.0         0.0
  8      0.7525      0.1609
 15      0.1140      0.5176
 16     -0.0042     -0.0083
 17      0.0372      0.0983
 18      0.0         0.0
REG. CONST. =        2.2999


MODEL   3 M3   CRITERION =  1

PREDICTORS =   4- 7 15-18

R = 0.7764      RSQ = 0.6028          165 ITERATIONS.

  V        BETA        B
  4      0.7429      0.9494
  5      1.8375      1.0539
  6      0.8086      0.7426
  7      1.3264      0.9302
 15      0.0         0.0
 16     -0.3596     -0.7179
 17      0.0         0.0
 18     -0.1781     -0.4005
REG. CONST. =        1.4346
```

```
MODEL   4 M4  CRITERION =  1

PREDICTORS =  2- 2 15-18

R = 0.7731      RSQ = 0.5977          7 ITERATIONS.

  V       BETA         B
  2      0.7361      0.9599
 15      0.0911      0.4134
 16      0.0158      0.0315
 17     -0.0614     -0.1624
 18     -0.0273     -0.0614
REG. CONST. =        0.9984


MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7643      RSQ = 0.5841          1 ITERATIONS.

  V       BETA         B
  2      0.7643      0.9967
REG. CONST. =        0.8744

F-TEST   1    MODEL 1 VS MODEL 2
RSQ FULL =       0.6149       MODEL  1
RSQ REDUCED = 0.6142       MODEL  2
DIFFERENCE =  0.0007
DFN =  3.      DFD =  459.     F-RATIO =    0.274    P = 0.8452

F-TEST   2    MODEL 2 VS MODEL 3
RSQ FULL =       0.6142       MODEL  2
RSQ REDUCED = 0.6028       MODEL  3
DIFFERENCE =  0.0114
DFN =  1.      DFD =  462.     F-RATIO =   13.704    P = 0.0005

F-TEST   3    MODEL 3 VS MODEL 4
RSQ FULL =       0.6028       MODEL  3
RSQ REDUCED = 0.5977       MODEL  4
DIFFERENCE =  0.0051
DFN =  3.      DFD =  463.     F-RATIO =    1.964    P = 0.1171

F-TEST   4    MODEL 4 VS MODEL 5
RSQ FULL =       0.5977       MODEL  4
RSQ REDUCED = 0.5841       MODEL  5
DIFFERENCE =  0.0136
DFN =  3.      DFD =  466.     F-RATIO =    5.251    P = 0.0018
```

80.71

```
*** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 1 -- ITBS-SWP VS TI VS FTI -- GRADE 6                    1450

PARAMETERS
COL  1- 5 =    18
COL  6-10 =   460
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                        1470

INTERCORRELATION ANALYSIS.

MEANS              1         2         3          4          5          6          7          8         9          10
              4.8133    3.9496       0.0     0.3946     1.6433     0.5978     1.3139    16.3392       0.0      1.6362

MEANS             11        12        13         14         15         16         17         18
              6.9155    2.2839    5.5037        0.0     0.1000     0.4087     0.1652     0.3261

SIGMAS             1         2         3          4          5          6          7          8         9          10
              1.0323    0.8603      -0.0     1.2169     2.0531     1.3880     1.9435     6.5904      -0.0      5.3640

SIGMAS            11        12        13         14         15         16         17         18
              9.3796    5.7135    8.6605       -0.0     0.3000     0.4916     0.3714     0.4688

R MATRIX           1         2         3          4          5          6          7          8         9          10

        1     1.0000    0.7541       0.0     0.1141     0.1612    -0.0919     0.1578     0.7570       0.0      0.1500

        2     0.7541    1.0000       0.0     0.0744     0.2408    -0.0647     0.1880     0.9907       0.0      0.1297

        3        0.0       0.0    1.0000        0.0        0.0        0.0        0.0        0.0       0.0         0.0

        4     0.1141    0.0744       0.0     1.0000    -0.2595    -0.1397    -0.2192     0.0766       0.0      0.9829

        5     0.1612    0.2408       0.0    -0.2595     1.0000    -0.3447    -0.5411     0.2470       0.0     -0.2441

        6    -0.0919   -0.0647       0.0    -0.1397    -0.3447     1.0000    -0.2912    -0.0702       0.0     -0.1314

        7     0.1578    0.1880       0.0    -0.2192    -0.5411    -0.2912     1.0000     0.1798       0.0     -0.2062

        8     0.7570    0.9907       0.0     0.0766     0.2470    -0.0702     0.1798     1.0000       0.0      0.1334

        9        0.0       0.0       0.0        0.0        0.0        0.0        0.0        0.0    1.0000         0.0

       10     0.1500    0.1297       0.0     0.9829    -0.2441    -0.1314    -0.2062     0.1334       0.0      1.0000

       11     0.2492    0.3567       0.0    -0.2391     0.9777    -0.3176    -0.4984     0.3689       0.0     -0.2249

       12    -0.0199    0.0215       0.0    -0.1296    -0.3199     0.9786    -0.2702     0.0144       0.0     -0.1219

       13     0.2263    0.2730       0.0    -0.2061    -0.5086    -0.2737     0.9827     0.2693       0.0     -0.1938

       14        0.0       0.0       0.0        0.0        0.0        0.0        0.0        0.0       0.0         0.0
```

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```
  15      0.0638   -0.0015    0.0      0.9728   -0.2668   -0.1436   -0.2253    0.0011    0.0      0.9151
  16      0.0347    0.0688    0.0     -0.2696    0.9627   -0.3581   -0.5620    0.0734    0.0     -0.2536
  17     -0.1736   -0.1712    0.0     -0.1443   -0.3561    0.9682   -0.3008   -0.1698    0.0     -0.1357
  18      0.0602    0.0645    0.0     -0.2256   -0.5568   -0.2996    0.9719    0.0569    0.0     -0.2122

R MATRIX   11        12        13        14        15        16        17        18
   1      0.2492   -0.0199    0.2263    0.0       0.0638    0.0347   -0.1736    0.0602
   2      0.3567    0.0215    0.2730    0.0      -0.0015    0.0688   -0.1712    0.0645
   3      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
   4     -0.2391   -0.1294   -0.2061    0.0       0.9728   -0.2696   -0.1443   -0.2256
   5      0.9777   -0.3199   -0.5086    0.0      -0.2668    0.9627   -0.3561   -0.5568
   6     -0.3176    0.9786   -0.2737    0.0      -0.1436   -0.3581    0.9682   -0.2996
   7     -0.4984   -0.2702    0.9827    0.0      -0.2253   -0.5620   -0.3008    0.9719
   8      0.3689    0.0144    0.2693    0.0       0.0011    0.0734   -0.1698    0.0569
   9      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
  10     -0.2249   -0.1219   -0.1938    0.0       0.9151   -0.2536   -0.1357   -0.2122
  11      1.0000   -0.2947   -0.4685    0.0      -0.2458    0.8868   -0.3280   -0.5129
  12     -0.2947    1.0000   -0.2540    0.0      -0.1332   -0.3323    0.8985   -0.2781
  13     -0.4685   -0.2540    1.0000    0.0      -0.2118   -0.5283   -0.2827    0.9136
  14      0.0       0.0       0.0       1.0000    0.0       0.0       0.0       0.0
  15     -0.2458   -0.1332   -0.2118    0.0       1.0000   -0.2771   -0.1483   -0.2319
  16      0.8868   -0.3323   -0.5283    0.0      -0.2771    1.0000   -0.3699   -0.5783
  17     -0.3280    0.8985   -0.2827    0.0      -0.1483   -0.3699    1.0000   -0.3095
  18     -0.5129   -0.2781    0.9136    0.0      -0.2319   -0.5783   -0.3095    1.0000
```

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```
MODEL   1 M1  CRITERION =  1

PREDICTORS =  4- 7 10-13 15-18

R = 0.7618      RSQ = 0.5803          97 ITERATIONS.

  V       BETA         B
  4      0.0490     0.0415
  5      0.0        0.0
  6      0.0        0.0
  7      0.0        0.0
 10      0.5586     0.1075
 11      1.0377     0.1142
 12      0.6901     0.1247
 13      1.0164     0.1211
 15      0.0401     0.1380
 16     -0.0105    -0.0220
 17     -0.0932    -0.2590
 18     -0.0392    -0.0863
REG. CONST. =       2.9458


MODEL   2 M2  CRITERION =  1

PREDICTORS =  4- 8 15-18

R = 0.7619      RSQ = 0.5805          39 ITERATIONS.

  V       BETA         B
  4     -0.0729    -0.0618
  5      0.0        0.0
  6      0.0872     0.0649
  7      0.0984     0.0523
  8      0.7355     0.1152
 15      0.1598     0.5498
 16      0.0401     0.0842
 17     -0.0852    -0.2368
 18     -0.0314    -0.0692
REG. CONST. =       2.8201


MODEL   3 M3  CRITERION =  1

PREDICTORS =  4- 7 15-18

R = 0.7584      RSQ = 0.5752         208 ITERATIONS.

  V       BETA         B
  4      0.9778     0.8295
  5      1.7517     0.8807
  6      1.2655     0.9412
  7      1.7341     0.9210
 15      0.0        0.0
 16     -0.1987    -0.4173
 17     -0.2638    -0.7333
 18     -0.2467    -0.5432
REG. CONST. =       1.7347
```

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```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2 15-18

R = 0.7579      RSQ = 0.5745           5 ITERATIONS.

  V       BETA        B
  2     0.7479     0.8974
 15     0.0644     0.2216
 16     0.0        0.0
 17    -0.0310    -0.0862
 18     0.0159     0.0350
REG. CONST. =      1.2497


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7541      RSQ = 0.5687           1 ITERATIONS.

  V       BETA        B
  2     0.7541     0.9049
REG. CONST. =      1.2394

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5803     MODEL  1
RSQ REDUCED = 0.5805       MODEL  2
DIFFERENCE = -0.0001
DFN =  3.      DFD =  448.     F-RATIO =   0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5805     MODEL  2
RSQ REDUCED = 0.5752       MODEL  3
DIFFERENCE =  0.0053
DFN =  1.      DFD =  451.     F-RATIO =   5.647    P = 0.0170

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5752     MODEL  3
RSQ REDUCED = 0.5745       MODEL  4
DIFFERENCE =  0.0007
DFN =  3.      DFD =  452.     F-RATIO =   0.261    P = 0.8550

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5745     MODEL  4
RSQ REDUCED = 0.5687       MODEL  5
DIFFERENCE =  0.0057
DFN =  3.      DFD =  455.     F-RATIO =   2.048    P = 0.1049
```

REGRESSION ANALYSES COMPARING HIGH-ACHIEVING STUDENTS AT ALLISON AND BECKER SCHOOLWIDE PROJECTS AT GRADES 1-6.

80.71

```
ANALYSIS 8 -- ALLISON VS BECKER -- GRADE 1 -- > 40                                        0840

PARAMETERS
COL   1- 5 =      8
COL   6-10 =     64
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)                                                                          0860


INTERCORRELATION ANALYSIS.


MEANS             1           2           3           4           5           6           7           8
             2.2500     55.5469     19.9375     35.6094   3119.6094   1117.0000   2002.6094      0.3594


SIGMAS            1           2           3           4           5           6           7           8
             0.7599      5.8441     26.8234     27.1032    666.9177   1536.2721   1599.5239      0.4798


R MATRIX          1           2           3           4           5           6           7           8

        1    1.0000      0.5244     -0.1375      0.2492      0.5263     -0.0931      0.3088     -0.1821

        2    0.5244      1.0000      0.0608      0.1554      0.9988      0.1270      0.2945     -0.0088

        3   -0.1375      0.0608      1.0000     -0.9766      0.0553      0.9929     -0.9306      0.9924

        4    0.2492      0.1554     -0.9766      1.0000      0.1607     -0.9553      0.9845     -0.9840

        5    0.5263      0.9988      0.0553      0.1607      1.0000      0.1203      0.3014     -0.0128

        6   -0.0931      0.1270      0.9929     -0.9553      0.1203      1.0000     -0.9103      0.9708

        7    0.3088      0.2945     -0.9306      0.9845      0.3014     -0.9103      1.0000     -0.9377

        8   -0.1821     -0.0088      0.9924     -0.9840     -0.0128      0.9708     -0.9377      1.0000
```

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80.71

```
MODEL   1 M1   CRITERION =   1

PREDICTORS =   3- 4   6- 8

R = 0.5591       RSQ = 0.3126            71 ITERATIONS.

  V        BETA          B
  3     0.0          0.0
  4     0.0          0.0
  6     1.4163       0.0007
  7     1.1655       0.0006
  8    -0.4641      -0.7350
REG. CONST. =        0.6227


MODEL   2 M2   CRITERICN =   1

PREDICTORS =   3- 5   8- 8

R = 0.5601       RSQ = 0.3137            50 ITERATICNS.

  V        BETA          B
  3     0.0          0.0
  4    -0.7282      -0.0204
  5     0.6318       0.0007
  8    -0.8928      -1.4140
REG. CONST. =        1.2392


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 4   8- 8

R = 0.5572       RSQ = 0.3104           176 ITERATICNS.

  V        BETA          B
  3     2.7001       0.0765
  4     2.3030       0.0646
  8    -0.5924      -0.9382
REG. CONST. =       -1.2374


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.5536       RSQ = 0.3065             2 ITERATICNS.

  V        BETA          B
  2     0.5228       0.0680
  8    -0.1775      -0.2812
REG. CONST. =       -1.4253
```

80.71

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5244     RSQ = 0.2750          1 ITERATICNS.

  V      BETA        B
  2    0.5244    0.0682
REG. CCNST. =   -1.5376


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.3126      MODEL  1
RSQ REDUCED = 0.3137      MODEL  2
DIFFERENCE = -0.0011
DFN =  1.      DFD =   58.     F-RATIO =   0.0     P = 1.CCCC


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.3137      MODEL  2
RSQ REDUCED = 0.3104      MODEL  3
DIFFERENCE =  0.0033
DFN =  1.      DFD =   59.     F-RATIO =   0.282   P = C.6C4C


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.3104      MODEL  3
RSQ REDUCED = 0.3065      MODEL  4
DIFFERENCE =  0.0039
DFN =  1.      DFD =   60.     F-RATIO =   0.342   P = 0.568C


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.3065      MODEL  4
RSQ REDUCED = 0.2750      MODEL  5
DIFFERENCE =  0.0315
DFN =  1.      DFD =   61.     F-RATIO =   2.772   P = 0.C972
```

80.71

```
ANALYSIS 8 -- ALLISON VS BECKER -- GRADE 2 -- > 40                              0960

PARAMETERS
COL  1- 5 =      8
COL  6-10 =     73
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                        0980


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
              2.8411     2.1055     0.6740     1.4315     4.6620     1.3773     3.2848     0.3425


SIGMAS             1          2          3          4          5          6          7          8
              0.9780     0.4786     0.9607     1.1116     2.4503     2.1583     3.2240     0.4745


R MATRIX           1          2          3          4          5          6          7          8

        1     1.0000     0.6364     0.0563     0.2254     0.6229     0.1312     0.3856    -0.0185

        2     0.6364     1.0000    -0.0909     0.5091     0.9839     0.0357     0.7239    -0.2073

        3     0.0563    -0.0909     1.0000    -0.9034    -0.0872     0.9686    -0.7147     0.9720

        4     0.2254     0.5091    -0.9034     1.0000     0.4990    -0.8218     0.9294    -0.9294

        5     0.6229     0.9839    -0.0872     0.4990     1.0000     0.0254     0.7431    -0.1886

        6     0.1312     0.0357     0.9686    -0.8218     0.0254     1.0000    -0.6502     0.8842

        7     0.3856     0.7239    -0.7147     0.9294     0.7431    -0.6502     1.0000    -0.7353

        8    -0.0185    -0.2073     0.9720    -0.9294    -0.1886     0.8842    -0.7353     1.0000
```

D-147

80.71

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6474      RSQ = 0.4192          396 ITERATIONS.

  V        BETA        B
  3      0.1142      0.1163
  4      1.7421      1.5327
  6      0.6344      0.2875
  7     -0.1236     -0.0375
  8      0.8376      1.7261
REG. CONST. =       -0.2953


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6471      RSQ = 0.4188           46 ITERATIONS.

  V        BETA        B
  3      1.6177      1.6467
  4      1.7615      1.5498
  5     -0.1104     -0.0441
  8      0.0238      0.0490
REG. CONST. =       -0.2986


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.6468      RSQ = 0.4183           11 ITERATIONS.

  V        BETA        B
  3      1.4038      1.4290
  4      1.5070      1.3259
  8      0.0175      0.0361
REG. CONST. =       -0.0323


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.6469      RSQ = 0.4185            2 ITERATIONS.

  V        BETA        B
  2      0.6610      1.3508
  8      0.1185      0.2443
REG. CONST. =       -0.0867
```

```
80.71




MODEL  5 M5  CRITERICN =  1

PREDICTORS =  2- 2

R = 0.6364     RSQ = 0.4051          1 ITERATICNS.

  V      BETA        B
  2    0.6364     1.3006
REG. CONST. =    0.1027


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.4192      MODEL  1
RSQ REDUCED = 0.4188      MODEL  2
DIFFERENCE =  0.0004
DFN =  1.     DFD =   67.     F-RATIO =    0.042    P = 0.8327

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.4188      MODEL  2
RSQ REDUCED = 0.4183      MODEL  3
DIFFERENCE =  0.0005
DFN =  1.     DFD =   68.     F-RATIO =    0.058    P = 0.8060

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.4183      MODEL  3
RSQ REDUCED = 0.4185      MODEL  4
DIFFERENCE = -0.0002
DFN =  1.     DFD =   69.     F-RATIO =    0.0      P = 1.CCCC

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.4185      MODEL  4
RSQ REDUCED = 0.4051      MODEL  5
DIFFERENCE =  0.0134
DFN =  1.     DFD =   70.     F-RATIO =    1.619    P = 0.2048
```

```
ANALYSIS 8 -- ALLISON VS BECKER -- GRADE 3 -- > 40                         1080

PARAMETERS
COL   1- 5 =      8
COL   6-10 =     47
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)                                                             1100


INTERCORRELATION ANALYSIS.

MEANS              1          2          3          4          5          6          7          8
                4.2532     3.1340     1.2149     1.9191    10.0491     3.9440     6.1051     0.3830

SIGMAS             1          2          3          4          5          6          7          8
                0.6250     0.4764     1.5710     1.5563     3.2581     5.3754     5.4661     0.4861

R MATRIX           1          2          3          4          5          6          7          8

       1        1.0000     0.7286     0.2640    -0.0435     0.7280     0.3217     0.1176     0.1921

       2        0.7286     1.0000     0.1824     0.1220     0.9956     0.2877     0.3105     0.0631

       3        0.2640     0.1824     1.0000    -0.9536     0.1736     0.9835    -0.8637     0.9816

       4       -0.0435     0.1220    -0.9536     1.0000     0.1295    -0.9048     0.9670    -0.9715

       5        0.7280     0.9956     0.1736     0.1295     1.0000     0.2750     0.3256     0.0603

       6        0.3217     0.2877     0.9835    -0.9048     0.2750     1.000C    -0.8195     0.9313

       7        0.1176     0.3105    -0.8637     0.9670     0.3256    -0.8195     1.0000    -0.8799

       8        0.1921     0.0631     0.9816    -0.9715     0.0603     0.9313    -0.8799     1.0000
```

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D-150

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.7446       RSQ = 0.5544          43 ITERATICNS.

  V       BETA        B
  3    0.0         0.0
  4    0.0         0.0
  6    1.0970      0.1275
  7    1.2592      0.1440
  8    0.2785      0.3581
REG. CONST. =      2.7341


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.7450       RSQ = 0.5550          46 ITERATIONS.

  V       BETA        B
  3    0.0         0.0
  4    0.3415      0.1371
  5    0.6544      0.1255
  8    0.4865      0.6254
REG. CONST. =      2.4890


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.7467       RSQ = 0.5576         123 ITERATICNS.

  V       BETA        B
  3    2.1474      0.8543
  4    2.5058      1.0063
  8    0.5187      0.6668
REG. CONST. =      1.0288


MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.7432       RSQ = 0.5523            2 ITERATICNS.

  V       BETA        B
  2    0.7193      0.9437
  8    0.1467      0.1885
REG. CONST. =      1.2233
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7286      RSQ = 0.5309          1 ITERATIONS.

  V       BETA        B
  2     0.7286     0.9559
REG. CONST. =      1.2574

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5544      MODEL  1
RSQ REDUCED = 0.5550      MODEL  2
DIFFERENCE = -0.0006
DFN =  1.      DFD =   41.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5550      MODEL  2
RSQ REDUCED = 0.5576      MODEL  3
DIFFERENCE = -0.0026
DFN =  1.      DFD =   42.     F-RATIO =    0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5576      MODEL  3
RSQ REDUCED = 0.5523      MODEL  4
DIFFERENCE =  0.0053
DFN =  1.      DFD =   43.     F-RATIO =    0.517    P = 0.4828

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5523      MODEL  4
RSQ REDUCED = 0.5309      MODEL  5
DIFFERENCE =  0.0214
DFN =  1.      DFD =   44.     F-RATIO =    2.105    P = 0.1503
```

Attachment D-10
(Page 1 of 2)

MODELS USED FOR EVALUATION QUESTION D2-3

Model 1: $Y = a_0U + a_1X^{(3)} + a_2X^{(4)} + a_3X^{(5)} + a_4X^{(7)} + a_5X^{(8)} + a_6X^{(9)} + a_7X^{(10)} + a_8X^{(11)} + a_9X^{(12)} + E$

Model 2: $Y = a_{10}U + a_{11}X^{(3)} + a_{12}X^{(4)} + a_{13}X^{(5)} + a_{14}X^{(6)} + a_{15}X^{(10)} + a_{16}X^{(11)} + a_{17}X^{(12)} + E$

Model 3: $Y = a_{18}U + a_{19}X^{(3)} + a_{20}X^{(4)} + a_{21}X^{(5)} + a_{22}X^{(10)} + a_{23}X^{(11)} + a_{24}X^{(12)} + E$

Model 4: $Y = a_{25}U + a_{26}X^{(2)} + a_{27}X^{(10)} + a_{28}X^{(11)} + a_{29}X^{(12)} + E$

Model 5: $Y = a_{30}U + a_{31}X^{(2)} + E$

Where,

Y = posttest
U = unit vector
$X^{(2)}$ = pretest
$X^{(3)}$ = pretest if group 1; 0, otherwise
$X^{(4)}$ = pretest if group 2; 0, otherwise
$X^{(5)}$ = pretest if group 3; 0, otherwise
$X^{(6)}$ = variable 2 squared
$X^{(7)}$ = variable 3 squared
$X^{(8)}$ = variable 4 squared
$X^{(9)}$ = variable 5 squared

$X^{(10)} = 1$ if a member of group 1; 0, otherwise

$X^{(11)} = 1$ if a member of group 2; 0, otherwise

$X^{(12)} = 1$ if a member of group 3; 0, otherwise

The groups are defined below.

Group 1 = high-achieving students at Allison and Becker.

Group 2 = high-achieving students at Title I schools who are from a former Title I attendance area.

Group 3 = high-achieving students from former Title I schools.

REGRESSION ANALYSES COMPARING HIGH-ACHIEVING SCHOOLWIDE PROJECT STUDENTS AND HIGH-ACHIEVING STUDENTS FROM TRADITIONAL TITLE I ATTENDANCE AREAS WHO ATTEND TITLE I AND NON-TITLE I SCHOOLS, GRADES 1-6.

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```
*** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 3 -- SWP VS TI VS FTI -- GRADE 1 -- > 40                          0950

PARAMETERS
CCL  1- 5 =    12
COL  6-10 =   720
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                   0970

INTERCORRELATION ANALYSIS.

MEANS           1         2          3          4          5          6          7          8          9          10
           2.4514   58.7333     4.9375    31.3222    22.4736  3497.5639   277.2986  1885.3778  1334.8875      0.0889

MEANS          11        12
           0.5278    0.3833

SIGMAS          1         2          3          4          5          6          7          8          9          10
           0.7920    6.9253    15.9034    30.0715    28.8067   847.4743   909.7828  1891.9039  1769.3763      0.2846

SIGMAS         11        12
           0.4992    0.4862

R MATRIX        1         2          3          4          5          6          7          8          9          10

       1   1.0000    0.5327    -0.0625     0.0700     0.0895     0.5150    -0.0446     0.1282     0.1325    -0.0794

       2   0.5327    1.0000    -0.1153     0.2195     0.0749     0.9945    -0.0853     0.3352     0.1618    -0.1437

       3  -0.0625   -0.1153     1.0000    -0.3234    -0.2422    -0.1128     0.9939    -0.3094    -0.2342     0.9940

       4   0.0700    0.2195    -0.3234     1.0000    -0.8126     0.2187    -0.3175     0.9856    -0.7858    -0.3253

       5   0.0895    0.0749    -0.2422    -0.8126     1.0000     0.0730    -0.2378    -0.7775     0.9885    -0.2437

       6   0.5150    0.9945    -0.1129     0.2187     0.0730     1.0000    -0.0847     0.3366     0.1626    -0.1393

       7  -0.0446   -0.0853     0.9939    -0.3175    -0.2378    -0.0847     1.0000    -0.3037    -0.2300     0.9758

       8   0.1282    0.3352    -0.3094     0.9856    -0.7775     0.3366    -0.3037     1.0000    -0.7518    -0.3113

       9   0.1325    0.1618    -0.2342    -0.7858     0.9985     0.1626    -0.2300    -0.7518     1.0000    -0.2356

      10  -0.0794   -0.1437     0.9940    -0.3253    -0.2437    -0.1393     0.9758    -0.3113    -0.2356     1.0000

      11   0.0059    0.0937    -0.3282     0.9852    -0.8248     0.0932    -0.3222     0.9426    -0.7976    -0.3302

      12   0.0405   -0.0121    -0.2448    -0.8212     0.9995    -0.0142    -0.2403    -0.7857     0.9569    -0.2463
```

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```
R MATRIX          11          12

      1        0.0059      0.0405

      2        0.0937     -0.0121

      3       -0.3282     -0.2448

      4        0.9852     -0.8212

      5       -0.8248      0.9895

      6        0.0932     -0.0142

      7       -0.3222     -0.2403

      8        0.9426     -0.7857

      9       -0.7976      0.9569

     10       -0.3302     -0.2463

     11        1.0000     -0.8335

     12       -0.8335      1.0000


MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 5  7-12

R = 0.5197     RSQ = 0.2701        122 ITERATIONS.

  V       BETA        B
  3     0.0         0.0
  4     0.1647      0.0043
  5     0.1465      0.0040
  7     0.6460      0.0006
  8     1.0338      0.0004
  9     1.0387      0.0005
 10    -0.0566     -0.1576
 11     0.0         0.0
 12    -0.0096     -0.0157
REG. CONST. =       0.6525
```

```
MODEL   2 M2   CRITERION =   1

PREDICTORS =   3- 6 10-12

R = 0.5517       RSQ = 0.3044              783 ITERATIONS.

  V         BETA          B
  3       3.7089       0.1847
  4       7.5198       0.1981
  5       7.7535       0.2132
  6      -1.2466      -0.0012
 10      -0.1433      -0.3987
 11      -0.7312      -1.1600
 12      -1.2139      -1.9774
REG. CONST. =         -3.9745


MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 5 10-12

R = 0.5346       RSQ = 0.2858              493 ITERATIONS.

  V         BETA          B
  3       1.1116       0.0554
  4       2.1230       0.0559
  5       2.5200       0.0693
 10      -0.5987      -1.6662
 11      -1.0795      -1.7125
 12      -1.4855      -2.4199
REG. CONST. =          0.8492


MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2 10-12

R = 0.5348       RSQ = 0.2860                3 ITERATICNS.

  V         BETA          B
  2       0.5347       0.0612
 10       0.0090       0.0251
 11       0.0          0.0
 12       0.0471       0.0766
REG. CONST. =         -1.1720
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5327     RSQ = 0.2837          1 ITERATIONS.

  V      BETA       B
  2    0.5327    0.0609
REG. CONST. =    -1.1266

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.2701      MODEL  1
RSQ REDUCED = 0.3044      MODEL  2
DIFFERENCE = -0.0343
DFN =  2.      DFD =  711.     F-RATIO =   0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.3044      MODEL  2
RSQ REDUCED = 0.2858      MODEL  3
DIFFERENCE =  0.0186
DFN =  1.      DFD =  713.     F-RATIO =  19.091    P = 0.0001

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.2858      MODEL  3
RSQ REDUCED = 0.2860      MODEL  4
DIFFERENCE = -0.0003
DFN =  2.      DFD =  714.     F-RATIO =   0.0      P = 1.0000

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.2860      MODEL  4
RSQ REDUCED = 0.2837      MODEL  5
DIFFERENCE =  0.0023
DFN =  2.      DFD =  716.     F-RATIO =   1.143    P = 0.3194
```

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 3 -- SWP VS TI VS FTI -- GRADE 2 -- > 40                                     1070

PARAMETERS
COL   1- 5 =    12
COL   6-10 =   718
COL  11-15 =     5
COL  16-20 =     4
COL  21-25 =     1

DATA FORMAT = (DUMMY)                                                                              1090

INTERCORRELATION ANALYSIS.

MEANS              1          2          3          4          5          6          7          8          9         10
              3.1260     2.3422     0.2141     0.8838     1.2443     5.7989     0.4740     2.0686     3.2563     0.1017

MEANS             11         12
              0.3955     0.5028

SIGMAS             1          2          3          4          5          6          7          8          9         10
              0.8246     0.5595     0.6543     1.1347     1.3069     2.9130     1.6111     2.9696     3.9487     0.3022

SIGMAS            11         12
              0.4890     0.5000

R MATRIX           1          2          3          4          5          6          7          8          9         10

        1     1.0000     0.6644    -0.0569     0.0052     0.3084     0.6546     0.0126     0.1041     0.3995    -0.1162

        2     0.6644     1.0000    -0.0748    -0.0024     0.4676     0.9904     0.0057     0.1417     0.6217    -0.1423

        3    -0.0569    -0.0748     1.0000    -0.2548    -0.3115    -0.0661     0.9617    -0.2279    -0.2698     0.9724

        4     0.0052    -0.0024    -0.2548     1.0000    -0.7416    -0.0135    -0.2292     0.9652    -0.6424    -0.2621

        5     0.3084     0.4676    -0.3115    -0.7416     1.0000     0.4689    -0.2801    -0.6632     0.9589    -0.3203

        6     0.6546     0.9904    -0.0661    -0.0135     0.4689     1.0000     0.0152     0.1274     0.6357    -0.1313

        7     0.0126     0.0057     0.9617    -0.2292    -0.2801     0.0152     1.0000    -0.2049    -0.2426     0.8745

        8     0.1041     0.1417    -0.2279     0.9652    -0.6632     0.1274    -0.2049     1.0000    -0.5745    -0.2344

        9     0.3995     0.6217    -0.2698    -0.6424     0.9589     0.6357    -0.2426    -0.5745     1.0000    -0.2774

       10    -0.1162    -0.1423     0.9724    -0.2621    -0.3203    -0.1313     0.8745    -0.2344    -0.2774     1.0000

       11    -0.0998    -0.1557    -0.2646     0.9629    -0.7702    -0.1580    -0.2380     0.[illegible]1    -0.6671    -0.2721

       12     0.1679     0.2383    -0.3290    -0.7833     0.9468     0.2339    -0.2959    -0.7005     0.8201    -0.3383
```

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```
R MATRIX          11          12

       1       -0.0998      0.1679

       2       -0.1557      0.2383

       3       -0.2646     -0.3290

       4        0.9629     -0.7833

       5       -0.7702      0.9468

       6       -0.1580      0.2339

       7       -0.2380     -0.2959

       8        0.8611     -0.7005

       9       -0.6671      0.8201

      10       -0.2721     -0.3383

      11        1.0000     -0.8135

      12       -0.8135      1.0000


MODEL  1 M1   CRITERION =  1

PREDICTORS =  3- 5  7-12

R = 0.6630     RSQ = 0.4396          204 ITERATIONS.

  V      BETA       B
  3     0.1058    0.1334
  4     0.1249    0.0908
  5     0.3290    0.2076
  7     0.4322    0.2212
  8     0.6793    0.1886
  9     0.6155    0.1285
 10    -0.0746   -0.2037
 11     0.0604    0.1019
 12     0.1122    0.1851
REG. CONST. =     1.7327
```

```
MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 6 10-12

R = 0.6678      RSQ = 0.4460         428 ITERATIONS.

  V       BETA        B
  3     0.9661     1.2174
  4     1.1841     0.8606
  5     1.1554     0.7290
  6     0.1092     0.0309
 10    -0.6992    -1.9079
 11    -0.6495    -1.0954
 12    -0.4711    -0.7770
REG. CONST. =      2.0365


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 5 10-12

R = 0.6683      RSQ = 0.4466         180 ITERATIONS.

  V       BETA        B
  3     0.9787     1.2334
  4     1.3826     1.0048
  5     1.4701     0.9276
 10    -0.4445    -1.2128
 11    -0.4070    -0.6863
 12    -0.3014    -0.4971
REG. CONST. =      1.4645


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2 10-12

R = 0.6648      RSQ = 0.4419           2 ITERATIONS.

  V       BETA        B
  2     0.6613     0.9746
 10    -0.0221    -0.0604
 11     0.0        0.0
 12     0.0        0.0
REG. CONST. =      0.8495
```

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```
MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6644       RSQ = 0.4414          1 ITERATIONS.

  V       BETA       B
  2     0.6644    0.9792
REG. CONST. =     0.8325

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.4396      MODEL  1
RSQ REDUCED = 0.4460      MODEL  2
DIFFERENCE = -0.0064
DFN =  2.      DFD =  709.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.4460      MODEL  2
RSQ REDUCED = 0.4466      MODEL  3
DIFFERENCE = -0.0006
DFN =  1.      DFD =  711.     F-RATIO =    0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.4466      MODEL  3
RSQ REDUCED = 0.4419      MODEL  4
DIFFERENCE =  0.0047
DFN =  2.      DFD =  712.     F-RATIO =    3.002    P = 0.0488

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.4419      MODEL  4
RSQ REDUCED = 0.4414      MODEL  5
DIFFERENCE =  0.0005
DFN =  2.      DFD =  714.     F-RATIO =    0.307    P = 0.7405
```

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1210

D-164

```
      *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 3 -- SHP VS TI VS FTI -- GRADE 3 -- > 40

PARAMETERS
CCL  1- 5 =     12
CCL  6-10 =    623
COL 11-15 =      5
COL 16-20 =      4
CCL 21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.

MEANS           1          2          3          4          5          6          7          8          9         10
           4.2019     3.3754     0.2364     1.4509     1.6881    11.7818     0.7581     5.0628     5.9609     0.0754

MEANS          11         12
           0.4302     0.4944


SIGMAS          1          2          3          4          5          6          7          8          9         10
           0.8454     0.6231     0.8380     1.7198     1.7638     4.6180     2.8008     6.5814     6.8730     0.2641

SIGMAS         11         12
           0.4951     0.5000


R MATRIX        1          2          3          4          5          6          7          8          9         10

      1    1.0000     0.7129     0.0402     0.0977     0.1375     0.7023     0.0636     0.1975     0.2568     0.0173

      2    0.7129     1.0000    -0.0765     0.1544     0.2391     0.9937    -0.0381     0.3016     0.3944    -0.1107

      3    0.0402    -0.0765     1.0000    -0.2380    -0.2700    -0.0757     0.9856    -0.2170    -0.2447     0.9877

      4    0.0977     0.1544    -0.2380     1.0000    -0.8074     0.1551    -0.2284     0.9701    -0.7317    -0.2410

      5    0.1375     0.2391    -0.2700    -0.8074     1.0000     0.2358    -0.2591    -0.7362     0.9690    -0.2734

      6    0.7023     0.9937    -0.0757     0.1551     0.2358     1.0000    -0.0396     0.3059     0.3951    -0.1072

      7    0.0636    -C.0381     0.9856    -0.2284    -0.2591    -0.0396     1.0000    -0.2082    -0.2348     0.9476

      8    0.1975     0.3016    -0.2170     0.9701    -0.7362     0.3059    -0.2082     1.0000    -0.6672    -0.2197

      9    0.2568     0.3944    -0.2447    -0.7317     0.9690     0.3951    -0.2348    -0.6672     1.0000    -0.2477

     10    0.0173    -0.1107     0.9877    -0.2410    -0.2734    -0.1072     0.9476    -0.2197    -0.2477     1.0000

     11   -0.0116    -0.0037    -0.2451     0.9710    -0.8316    -3.0024    -0.2352     0.8854    -0.7536    -0.2482

     12    0.0023     0.0622    -0.2790    -0.8342     0.9679     0.0590    -0.2677    -0.7637     0.8771    -0.2825
```

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```
R MATRIX            11          12

          1      -0.0116      0.0023

          2      -0.0037      0.0622

          3      -0.2451     -0.2790

          4       0.9710     -0.8342

          5      -0.8316      0.9679

          6      -0.0024      0.0590

          7      -0.2352     -0.2677

          8       0.8854     -0.7607

          9      -0.7536      0.8771

         10      -0.2482     -0.2825

         11       1.0000     -0.8592

         12      -0.8592      1.0000


MODEL   1 M1   CRITERION =   1

PREDICTORS =  3- 5  7-12

R = 0.7108      RSQ = 0.5053         149 ITERATIONS.

   V       BETA        B
   3     0.0         0.0
   4     0.2033      0.0999
   5     0.1906      0.0914
   7     0.4676      0.1411
   8     0.8615      0.1107
   9     1.0047      0.1236
  10     0.0868      0.2778
  11     0.0         0.0
  12    -0.0866     -0.1464
REG. CONST. =        2.5503


MODEL   2 M2   CRITERION =   1

PREDICTORS =  3- 6 10-12

R = 0.7225      RSQ = 0.5220         337 ITERATIONS.

   V       BETA        B
   3     1.5450      1.5586
   4     3.1063      1.5269
   5     3.4726      1.6643
   6    -0.4574     -0.0837
  10     0.0         0.0
  11    -0.1078     -0.1840
  12    -0.4021     -0.6800   D-165
REG. CONST. =        0.2104
```

80.71

```
MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 5 10-12

R = 0.7197       RSQ = 0.5179           272 ITERATIONS.

   V        BETA         B
   3      0.7766      0.7834
   4      1.8687      0.9185
   5      2.1892      1.0492
  10     -0.4834     -1.5473
  11     -1.3236     -2.2599
  12     -1.6148     -2.7304
REG. CONST. =         3.3515


MODEL   4 M4   CRITERION =  1

PREDICTORS =  2- 2 10-12

R = 0.7196       RSQ = 0.5178              4 ITERATIONS.

   V        BETA         B
   2      0.7241      0.9825
  10      0.1015      0.3248
  11      0.0160      0.0273
  12      0.0         0.0
REG. CONST. =         0.8493
```

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```
MODEL   5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7129      RSQ = 0.5082          1 ITERATIONS.

  V      BETA       B
  2    0.7129    0.9672
REG. CONST. =    0.9372

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5053      MODEL  1
RSQ REDUCED = 0.5220      MODEL  2
DIFFERENCE = -0.0168
DFN =  2.      DFD =  614.      F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5220      MODEL  2
RSQ REDUCED = 0.5179      MODEL  3
DIFFERENCE =  0.0041
DFN =  1.      DFD =  616.      F-RATIO =    5.278     P = 0.0207

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5179      MODEL  3
RSQ REDUCED = 0.5178      MODEL  4
DIFFERENCE =  0.0001
DFN =  2.      DFD =  617.      F-RATIO =    0.086     P = 0.9170

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5178      MODEL  4
RSQ REDUCED = 0.5082      MODEL  5
DIFFERENCE =  0.0096
DFN =  2.      DFD =  619.      F-RATIO =    6.176     P = 0.0026
```

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 3 -- SWP VS TI VS FTI -- GRADE 4 -- > 40                        1310

PARAMETERS
COL  1- 5 =     12
COL  6-10 =    527
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                1330

INTERCORRELATION ANALYSIS.

MEANS             1          2          3          4          5          6          7          8          9         10
             5.4833     4.4512     0.2150     1.4901     2.7461    20.2226     0.9159     6.7752    12.5314     0.0512

MEANS            11         12
             0.3340     0.6148

SIGMAS            1          2          3          4          5          6          7          8          9         10
             1.0668     0.6396     0.9326     2.1342     2.2339     5.9765     4.0730    10.1237    11.0369     0.2205

SIGMAS           11         12
             0.4716     0.4866

R MATRIX          1          2          3          4          5          6          7          8          9         10
      1      1.0000     0.7579    -0.0428     0.1248     0.1156     0.7572    -0.0283     0.1958     0.2408    -0.0561
      2      0.7579     1.0000    -0.0688     0.1043     0.2155     0.9971    -0.0435     0.1923     0.3796    -0.0926
      3     -0.0428    -0.0688     1.0000    -0.1610    -0.2834    -0.0689     0.9917    -0.1543    -0.2618     0.9921
      4      0.1248     0.1043    -0.1610     1.0000    -0.8583     0.0995    -0.1570     0.9862    -0.7928    -0.1623
      5      0.1156     0.2155    -0.2834    -0.8583     1.0000     0.2192    -0.2764    -0.8227     0.9753    -0.2857
      6      0.7572     0.9971    -0.0689     0.0995     0.2192     1.0000    -0.0449     0.1881     0.3856    -0.0912
      7     -0.0283    -0.0435     0.9917    -0.1570    -0.2764    -0.0449     1.0000    -0.1505    -0.2553     0.9677
      8      0.1958     0.1923    -0.1543     0.9862    -0.8227     0.1881    -0.1505     1.0000    -0.7599    -0.1555
      9      0.2408     0.3796    -0.2618    -0.7928     0.9753     0.3856    -0.2553    -0.7599     1.0000    -0.2638
     10     -0.0561    -0.0926     0.9921    -0.1623    -0.2857    -0.0912     0.9677    -0.1555    -0.2638     1.0000
     11      0.0499     0.0118    -0.1632     0.9860    -0.8705     0.0077    -0.1592     0.9451    -0.8040    -0.1646
     12     -0.0230     0.0305    -0.2912    -0.8821     0.9730     0.0339    -0.2841    -0.8455     0.8987    -0.2936
```

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```
R MATRIX          11           12

      1         0.0499      -0.0230

      2         0.0118       0.0305

      3        -0.1632      -0.2912

      4         0.9860      -0.8821

      5        -0.8705       0.9730

      6         0.0077       0.0339

      7        -0.1592      -0.2841

      8         0.9451      -0.8455

      9        -0.8040       0.8987

     10        -0.1646      -0.2936

     11         1.0000      -0.8946

     12        -0.8946       1.0000


MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 5  7-12

R = 0.7600     RSQ = 0.5777          41 ITERATIONS.

  V      BETA       B
  3   0.0        0.0
  4   0.0        0.0
  5   0.0        0.0
  7   0.4613     0.1208
  8   1.3654     0.1439
  9   1.3682     0.1322
 10   0.0615     0.2977
 11  -0.0538    -0.1217
 12   0.0        0.0
REG. CONST. =    2.7661


MCDEL  2 M2  CRITERICN =  1

PREDICTORS =  3- 6 10-12

R = 0.7598     RSQ = 0.5773          51 ITERATIONS.

  V      BETA       B
  3  -0.1881    -0.2152
  4   0.0        0.0
  5  -0.2561    -0.1223
  6   0.8110     0.1448
 10   0.1645     0.7957
 11  -0.0522    -0.1180
 12   0.1461     0.3202
REG. CONST. =    2.7397
```

```
MODEL   3 M3  CRITERION =  1

PREDICTORS =  3- 5 10-12

R = 0.7603      RSQ = 0.5780        345 ITERATIONS.

  V       BETA        B
  3     0.5993     0.6856
  4     2.8327     1.4159
  5     2.5466     1.2161
 10    -0.2983    -1.4433
 11    -2.0147    -4.5571
 12    -1.7181    -3.7663
REG. CCNST. =      3.7979


MCDEL   4 M4  CRITERICN =  1

PREDICTORS =  2- 2 10-12

R = 0.7593      RSQ = 0.5766          2 ITERATICNS.

  V       BETA        B
  2     0.7594     1.2665
 10     0.0        0.0
 11     0.0        0.0
 12    -0.0461    -0.1011
REG. CCNST. =     -0.0919
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7579     RSQ = 0.5745          1 ITERATIONS.

  V      BETA       B
  2    0.7579    1.2641
REG. CONST. =    -0.1436

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.5777      MODEL  1
RSQ REDUCED = 0.5773      MODEL  2
DIFFERENCE =  0.0004
DFN =  2.     DFD =  518.     F-RATIO =    0.217    P = 0.8072

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.5773      MODEL  2
RSQ REDUCED = 0.5780      MODEL  3
DIFFERENCE = -0.0007
DFN =  1.     DFD =  520.     F-RATIO =    0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.5780      MODEL  3
RSQ REDUCED = 0.5766      MODEL  4
DIFFERENCE =  0.0014
DFN =  2.     DFD =  521.     F-RATIO =    0.866    P = 0.4244

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.5766      MODEL  4
RSQ REDUCED = 0.5745      MODEL  5
DIFFERENCE =  0.0021
DFN =  2.     DFD =  523.     F-RATIO =    1.314    P = 0.2688
```

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 3 -- SWP VS TI VS FTI -- GRADE 5 -- > 40                        1430

PARAMETERS
COL  1- 5 =    12
CCL  6-10 =   400
CCL 11-15 =     5
CCL 16-20 =     4
COL 21-25 =     1
                                                                                   1450
DATA FORMAT = (DUMPY)


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8          9          10
                6.7972     5.7157     0.1747     2.1335     3.4075    33.4186     0.9663    12.7106    19.7416     0.0325

MEANS             11         12
                0.3675     0.6000


SIGMAS             1          2          3          4          5          6          7          8          9          10
                1.1530     0.8653     0.9674     2.8564     2.8514    10.4755     5.6409    18.0964    17.7485     0.1773

SIGMAS            11         12
                0.4821     0.4899


R MATRIX           1          2          3          4          5          6          7          8          9          10

      1         1.0000     0.8194     0.0456     0.1705     0.0624     0.8192     0.0726     0.2706     0.1845     0.0200

      2         0.8194     1.0000    -0.0388     0.2088     0.1075     0.9965    -0.0001     0.3277     0.2541    -0.0718

      3         0.0456    -0.0388     1.0000    -0.1349    -0.2159    -0.0313     0.9812    -0.1269    -0.2009     0.9856

      4         0.1705     0.2088    -0.1349     1.0000    -0.8926     0.2167    -0.1280     0.9801    -0.8308    -0.1369

      5         0.0624     0.1075    -0.2159    -0.8926     1.0000     0.0960    -0.2947    -0.8394     0.9775    -0.2190

      6         0.8192     0.9965    -0.0313     0.2167     0.0960     1.0000     0.0079     0.3390     0.2421    -0.0645

      7         0.0726    -0.0001     0.9812    -0.1280    -0.2047     0.0078     1.0000    -0.1203    -0.1905     0.9347

      8         0.2706     0.3277    -0.1269     0.9801    -0.8394     0.3390    -0.1203     1.0000    -0.7813    -0.1287

      9         0.1845     0.2541    -0.2009    -0.8308     0.9775     0.2421    -0.1905    -0.7813     1.0000    -0.2039

     10         0.0200    -0.0718     0.9856    -0.1369    -0.2190    -0.0645     0.9347    -0.1287    -0.2039     1.0000

     11         0.0616     0.0790    -0.1377     0.9799    -0.9109     0.0850    -0.1306     0.9215    -0.8479    -0.1397

     12        -0.0579    -0.0518    -0.2212    -0.9148     0.9757    -0.0603    -0.2098    -0.8602     0.9082    -0.2245
```

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```
         R MATRIX         11          12

80.71           1       0.0616     -0.0679

                2       0.0790     -0.0518

                3      -0.1377     -0.2212

                4       0.9799     -0.9148

                5      -0.9109      0.9757

                6       0.0850     -0.0603

                7      -0.1306     -0.2098

                8       0.9215     -0.8602

                9      -0.8479      0.9082

               10      -0.1397     -0.2245

               11       1.0000     -0.9336

               12      -0.9336      1.0000


         MODEL   1 M1  CRITERION =  1

         PREDICTORS =  3- 5  7-12

         R = 0.8224      RSQ = 0.6764          25 ITERATIONS.

           V       BETA        B
           3     0.0         0.0
           4     0.0         0.0
           5     0.0         0.0
           7     0.4497      0.0919
           8     1.4234      0.0907
           9     1.3939      0.0906
          10     0.0671      0.4362
          11     0.0         0.0
          12     0.0         0.0
         REG. CONST. =       3.7538


         MODEL   2 M2  CRITERION =  1

         PREDICTORS =  3- 6 10-12

         R = 0.8225      RSQ = 0.6764           2 ITERATIONS.

           V       BETA        B
           3     0.0         0.0
           4     0.0         0.0
           5     0.0         0.0
           6     0.8239      0.0907
          10     0.0731      0.4755      D-173
          11     0.0         0.0
          12     0.0         0.0
         REG. CONST. =       3.7511
```

```
MODEL   3 M3   CRITERION =   1

PREDICTORS =   3- 5 10-12

R = 0.8227        RSQ = 0.6768           317 ITERATICNS.

  V        BETA         B
  3      0.7449      0.8879
  4      2.8432      1.1477
  5      2.6411      1.0680
 10     -0.3860     -2.5097
 11     -1.8575     -4.4423
 12     -1.7006     -4.0024
REG. CCNST. =        4.6700


MCDEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2 10-12

R = 0.8233        RSQ = 0.6778             3 ITERATICNS.

  V        BETA         B
  2      0.8246      1.0987
 10      0.0792      0.5148
 11      0.0075      0.0180
 12      0.0         0.0
REG. CONST. =        0.4937
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8194      RSQ = 0.6715           1 ITERATIONS.

  V       BETA        B
  2     0.8194     1.0918
REG. CONST. =      0.5566

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.6764       MODEL  1
RSQ REDUCED = 0.6764        MODEL  2
DIFFERENCE = -0.0000
DFN =  2.      DFD =  391.     F-RATIO =    0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.6764       MODEL  2
RSQ REDUCED = 0.6768        MODEL  3
DIFFERENCE = -0.0004
DFN =  1.      DFD =  393.     F-RATIO =    0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.6768       MODEL  3
RSQ REDUCED = 0.6778        MODEL  4
DIFFERENCE = -0.0009
DFN =  2.      DFD =  394.     F-RATIO =    0.0      P = 1.0000

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.6778       MODEL  4
RSQ REDUCED = 0.6715        MODEL  5
DIFFERENCE =   0.0063
DFN =  2.      DFD =  396.     F-RATIO =    3.871    P = 0.0211
```

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```
ANALYSIS 3 -- SWP VS TI VS FTI -- GRADE 6 -- > 40                        1550

PARAMETERS
COL  1- 5 =    12
COL  6-10 =   411
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                              1570


INTERCORRELATION ANALYSIS.

MEANS            1         2         3         4         5         6         7         8         9        10
             7.7691    6.6820    0.2433    2.6350    3.8036   45.7337    1.5427   18.6973   25.4937    0.0389

MEANS           11        12
             0.3820    0.5791


SIGMAS           1         2         3         4         5         6         7         8         9        10
             1.3557    1.0415    1.2180    3.4284    3.3205   15.4384    7.9428   26.1745   24.0795    0.1934

SIGMAS          11        12
             0.4859    0.4937


R MATRIX         1         2         3         4         5         6         7         8         9        10

       1     1.0000    0.8713   -0.0113    0.2622    0.0067    0.8626    0.0072    0.3783    0.1395   -0.0270

       2     0.8713    1.0000   -0.0655    0.3053    0.0225    0.9955   -0.0432    0.4363    0.1783   -0.0835

       3    -0.0113   -0.0655    1.0000   -0.1535   -0.2288   -0.0626    0.9898   -0.1427   -0.2115    0.9925

       4     0.2622    0.3053   -0.1535    1.0000   -0.8804    0.3083   -0.1493    0.9757   -0.8137   -0.1547

       5     0.0067    0.0225   -0.2288   -0.8804    1.0000    0.0169   -0.2225   -0.8183    0.9737   -0.2305

       6     0.8626    0.9955   -0.0626    0.3083    0.0169    1.0000   -0.0415    0.4445    0.1717   -0.0796

       7     0.0072   -0.0432    0.9898   -0.1493   -0.2225   -0.0415    1.0000   -0.1387   -0.2056    0.9651

       8     0.3783    0.4363   -0.1427    0.9757   -0.8183    0.4445   -0.1387    1.0000   -0.7563   -0.1438

       9     0.1395    0.1783   -0.2115   -0.8137    0.9737    0.1717   -0.2056   -0.7563    1.0000   -0.2131

      10    -0.0270   -0.0835    0.9925   -0.1547   -0.2305   -0.0796    0.9651   -0.1438   -0.2131    1.0000

      11     0.1339    0.1631   -0.1571    0.9776   -0.9006    0.1636   -0.1527    0.9086   -0.8324   -0.1582

      12    -0.1212   -0.1278   -0.2343   -0.9015    0.9766   -0.1298   -0.2278   -0.8378    0.9027   -0.2361
```

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80.71

```
R MATRIX          11         12

       1       0.1339    -0.1212

       2       0.1631    -0.1278

       3      -0.1571    -0.2343

       4       0.9776    -0.9015

       5      -0.9006     0.9766

       6       0.1636    -0.1298

       7      -0.1527    -0.2278

       8       0.9086    -0.8378

       9      -0.8324     0.9027

      10      -0.1582    -0.2361

      11       1.0000    -0.9221

      12      -0.9221     1.0000


MODEL   1 M1   CRITERION =  1

PREDICTORS =   3- 5  7-12

R = 0.8638      RSQ = 0.7461          5 ITERATIONS.

  V        BETA        B
  3      0.0129     0.0144
  4      0.0        0.0
  5      0.0569     0.0232
  7      0.4809     0.0821
  8      1.4818     0.0767
  9      1.3035     0.0734
 10      0.0        0.0
 11      0.0        0.0
 12      0.0        0.0
REG. CONST. =       4.2447
```

```
MCDEL  2 M2  CRITERION =  1

PREDICTORS =  3- 6 10-12

R = 0.8637      RSQ = 0.7459           2 ITERATIONS.

  V       BETA        B
  3     0.0429     0.0477
  4     0.0        0.0
  5     0.0        0.0
  6     0.8653     0.0760
 10     0.0        0.0
 11     0.0        0.0
 12     0.0        0.0
REG. CONST. =      4.2825


MCDEL  3 M3  CRITERION =  1

PREDICTORS =  3- 5 10-12

R = 0.8721      RSQ = 0.7606         377 ITERATIONS.

  V       BETA        B
  3     0.7725     0.8598
  4     3.0327     1.1992
  5     2.6581     1.0852
 10    -0.6061    -4.2479
 11    -2.4159    -6.7406
 12    -2.1735    -5.9682
REG. CCNST. =      6.4686


MODEL  4 M4  CRITERICN =  1

PREDICTORS =  2- 2 10-12

R = 0.8726      RSQ = 0.7614           2 ITERATICNS.

  V       BETA        B
  2     0.8752     1.1392
 10     0.0461     0.3231
 11     0.0        0.0
 12     0.0        0.0
REG. CONST. =      0.1442
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8713      RSQ = 0.7592          1 ITERATIONS.

  V       BETA        B
  2    0.8713     1.1342
REG. CONST. =     0.1902

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.7461      MODEL  1
RSQ REDUCED = 0.7459      MODEL  2
DIFFERENCE =  0.0001
DFN =  2.     DFD =  402.     F-RATIO =    0.099    P = 0.9050

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.7459      MODEL  2
RSQ REDUCED = 0.7606      MODEL  3
DIFFERENCE = -0.0147
DFN =  1.     DFD =  404.     F-RATIO =    0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.7606      MODEL  3
RSQ REDUCED = 0.7614      MODEL  4
DIFFERENCE = -0.0007
DFN =  2.     DFD =  405.     F-RATIO =    0.0      P = 1.0000

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.7614      MODEL  4
RSQ REDUCED = 0.7592      MODEL  5
DIFFERENCE =  0.0021
DFN =  2.     DFD =  407.     F-RATIO =    1.800    P = 0.1645
```

REGRESSION ANALYSES COMPARING RAINBOW KIT PARTICIPANTS AND CONTROL STUDENTS AT GRADES 1-6.

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```
ANALYSIS 4 -- RAINBOW KIT -- GRADE 1                                           0940

PARAMETERS
COL   1- 5 =      8
COL   6-10 =    102
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)                                                                       0960


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
              1.4961    34.7157    15.7059    19.0098  1266.8333   603.1176   663.7157     0.4314


SIGMAS             1          2          3          4          5          6          7          8
              0.5959     7.8520    18.8797    17.3880   521.8474   783.1905   677.8894     0.4953


R MATRIX           1          2          3          4          5          6          7          8

       1      1.0000     0.3547     0.4037    -0.2782     0.3451     0.4605    -0.2663     0.2848

       2      0.3547     1.0000     0.3904     0.0277     0.9890     0.4941     0.1905     0.1878

       3      0.4037     0.3904     1.0000    -0.9095     0.4140     0.9809    -0.8145     0.9551

       4     -0.2782     0.0277    -0.9095     1.0000    -0.0030    -0.8419     0.9704    -0.9522

       5      0.3451     0.9890     0.4140    -0.0030     1.0000     0.5214     0.1674     0.2192

       6      0.4605     0.4941     0.9809    -0.8419     0.5214     1.0000    -0.7540     0.8841

       7     -0.2663     0.1905    -0.8145     0.9704     0.1674    -0.7540     1.0000    -0.8528

       8      0.2848     0.1878     0.9551    -0.9522     0.2192     0.8841    -0.8528     1.0000
```

80.71

D-182

```
MODEL   1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.5623     RSQ = 0.3161       396 ITERATIONS.

  V      BETA       B
  3     0.7090    0.0224
  4     4.6631    0.1598
  6     0.5238    0.0004
  7    -2.8045   -0.0025
  8     1.1905    1.4323
REG. CONST. =    -1.1153


MODEL   2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.5294     RSQ = 0.2803        11 ITERATIONS.

  V      BETA       B
  3     1.6573    0.0523
  4     0.0278    0.0010
  5    -0.0650   -0.0001
  8    -1.2593   -1.5152
REG. CONST. =     1.4040


MODEL   3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.5285     RSQ = 0.2793        16 ITERATIONS.

  V      BETA       B
  3     1.5022    0.0474
  4    -0.0477   -0.0016
  8    -1.1956   -1.4385
REG. CONST. =     1.4030


MODEL   4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.4185     RSQ = 0.1751         2 ITERATIONS.

  V      BETA       B
  2     0.3122    0.0237
  8     0.2261    0.2721
REG. CONST. =     0.5561
```

```
80.71
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.3547      RSQ = 0.1258          1 ITERATIONS.

  V      BETA       B
  2    0.3547    0.0269
REG. CONST. =    0.5616


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.3161      MODEL  1
RSQ REDUCED = 0.2803      MODEL  2
DIFFERENCE =  0.0358
DFN =  1.       DFD =    96.     F-RATIO =    5.031    P = 0.0256


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.2803      MODEL  2
RSQ REDUCED = 0.2793      MODEL  3
DIFFERENCE =  0.0010
DFN =  1.       DFD =    97.     F-RATIO =    0.137    P = 0.7137


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.2793      MODEL  3
RSQ REDUCED = 0.1751      MODEL  4
DIFFERENCE =  0.1041
DFN =  1.       DFD =    98.     F-RATIO =  14.161    P = 0.0005


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.1751      MODEL  4
RSQ REDUCED = 0.1258      MODEL  5
DIFFERENCE =  0.0493
DFN =  1.       DFD =    99.     F-RATIO =    5.921    P = 0.0159
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

ANALYSIS 4 -- RAINBOW KIT -- GRADE 2

PARAMETERS
COL   1- 5 =       8
COL   6-10 =      76
COL  11-15 =       5
COL  16-20 =       4
COL  21-25 =       1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS               1          2          3          4          5          6          7          8
                 1.8434     1.0855     0.5224     0.5632     1.2620     0.6272     0.6347     0.4605


SIGMAS              1          2          3          4          5          6          7          8
                 0.6352     0.2891     0.5953     0.5636     0.5760     0.7863     0.7140     0.4984


R MATRIX            1          2          3          4          5          6          7          8

          1      1.0000     0.2362     0.0524     0.0659     0.2079     0.0954     0.0627    -0.0174

          2      0.2362     1.0000     0.3497     0.1437     0.9843     0.4569     0.2909     0.1558

          3      0.0524     0.3497     1.0000    -0.8769     0.3661     0.9766    -0.7801     0.9497

          4      0.0659     0.1437    -0.8769     1.0000     0.1183    -0.7972     0.9733    -0.9233

          5      0.2079     0.9843     0.3661     0.1183     1.0000     0.4860     0.2715     0.1605

          6      0.0954     0.4569     0.9766    -0.7972     0.4860     1.0000    -0.7092     0.8634

          7      0.0627     0.2909    -0.7801     0.9733     0.2715    -0.7092     1.0000    -0.8214

          8     -0.0174     0.1558     0.9497    -0.9233     0.1605     0.8634    -0.8214     1.0000
```

```
MODEL   1 M1  CRITERICN =  1

PREDICTORS =  3- 4  6- 8

R = 0.3352      RSQ = 0.1123        97 ITERATICNS.

  V       BETA        B
  3     0.0        0.0
  4     3.1226     3.5197
  6     0.4457     0.36C1
  7    -1.9137    -1.7026
  8     0.9089     1.1583
REG. CCNST. =      0.1827


MODEL   2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.3131      RSQ = C.C980       163 ITERATICNS.

  V       BETA        B
  3     3.C410     3.2451
  4     2.2257     2.5088
  5    -1.0572    -1.166C
  8    -0.6810    -0.8679
REG. CCNST. =      0.6066


MODEL   3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.2560      RSQ = 0.0656        49 ITERATICNS.

  V       BETA        B
  3     0.6887     0.7349
  4     0.3567     0.4021
  8    -0.3422    -0.4361
REG. CONST. =      1.4339


MODEL   4 M4  CRITERICN =  1

PREDICTORS =  2- 2  8- 8

R = 0.2425      RSQ = 0.0588         2 ITERATICNS.

  V       BETA        B
  2     0.2449     0.5380
  8    -0.0556    -0.0709
REG. CCNST. =      1.2920
```

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.2362      RSQ = 0.0558          1 ITERATIONS.

  V       BETA        B
  2    0.2362     0.5190
REG. CONST. =     1.2800


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.1123      MODEL  1
RSQ REDUCED = 0.0980      MODEL  2
DIFFERENCE =  0.0143
DFN =  1.      DFD =   70.     F-RATIO =   1.131    P = 0.2914

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.0980      MODEL  2
RSQ REDUCED = 0.0656      MODEL  3
DIFFERENCE =  0.0325
DFN =  1.      DFD =   71.     F-RATIO =   2.555    P = 0.1105

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.0656      MODEL  3
RSQ REDUCED = 0.0588      MODEL  4
DIFFERENCE =  0.0067
DFN =  1.      DFD =   72.     F-RATIO =   0.518    P = 0.4808

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.0588      MODEL  4
RSQ REDUCED = 0.0558      MODEL  5
DIFFERENCE =  0.0030
DFN =  1.      DFD =   73.     F-RATIO =   0.234    P = 0.6356
```

```
ANALYSIS 4 -- RAINBOW KIT -- GRADE 3                                  0940

PARAMETERS
COL  1- 5 =      8
COL  6-10 =     85
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                0960


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
              2.7624     1.7941     0.9482     0.8459     3.4041     1.8066     1.5975     0.5294


SIGMAS           1          2          3          4          5          6          7          8
              0.6488     0.4304     0.9526     0.9392     1.4933     2.0438     1.9557     0.4991


R MATRIX         1          2          3          4          5          6          7          8

       1      1.0000     0.5819     0.0471     0.2189     0.5971     0.1606     0.2881    -0.1092

       2      0.5819     1.0000     0.2569     0.1977     0.9910     0.4118     0.3264    -0.0074

       3      0.0471     0.2569     1.0000    -0.8966     0.2640     0.9710    -0.8131     0.9385

       4      0.2189     0.1977    -0.8966     1.0000     0.1864    -0.7961     0.9743    -0.9553

       5      0.5971     0.9910     0.2640     0.1864     1.0000     0.4230     0.3215     0.0059

       6      0.1606     0.4118     0.9710    -0.7961     0.4230     1.0000    -0.7220     0.8334

       7      0.2881     0.3264    -0.8131     0.9743     0.3215    -0.7220     1.0000    -0.8664

       8     -0.1092    -0.0074     0.9385    -0.9553     0.0059     0.8334    -0.8664     1.0000
```

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MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6186      RSQ = 0.3827         414 ITERATIONS.

  V      BETA      B
  3    -1.8316   -1.2475
  4     0.0       0.0
  6     1.9664    0.6242
  7     0.7750    0.2571
  8     0.6422    0.8347
REG. CONST. =     1.9649


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6137      RSQ = 0.3766          57 ITERATIONS.

  V      BETA      B
  3    -1.3520   -0.9208
  4    -1.3406   -0.9262
  5     1.2054    0.5237
  8    -0.1282   -0.1667
REG. CONST. =     2.7244


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.5914      RSQ = 0.3498           2 ITERATIONS.

  V      BETA      B
  3     1.2405    0.8449
  4     1.3310    0.9195
  8     0.0       0.0
REG. CONST. =     1.1834


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.5912      RSQ = 0.3496           2 ITERATIONS.

  V      BETA      B
  2     0.5811    0.8759
  8    -0.1049   -0.1363
REG. CONST. =     1.2631
```

```
80.71




MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.5819     RSQ = 0.3386          1 ITERATIONS.

  V       BETA       B
  2    0.5819    0.8771
REG. CONST. =    1.1888

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.3827      MODEL  1
RSQ REDUCED = 0.3766      MODEL  2
DIFFERENCE =  0.0060
DFN =  1.     DFD =   79.     F-RATIO =    0.773    P = 0.3859

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.3766      MODEL  2
RSQ REDUCED = 0.3498      MODEL  3
DIFFERENCE =  0.0268
DFN =  1.     DFD =   80.     F-RATIO =    3.445    P = 0.0637

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.3498      MODEL  3
RSQ REDUCED = 0.3496      MODEL  4
DIFFERENCE =  0.0002
DFN =  1.     DFD =   81.     F-RATIO =    0.028    P = 0.8626

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.3496      MODEL  4
RSQ REDUCED = 0.3386      MODEL  5
DIFFERENCE =  0.0110
DFN =  1.     DFD =   82.     F-RATIO =    1.387    P = 0.2406
```

```
ANALYSIS 4 -- RAINBOW KIT -- GRADE 4                                              0940

PARAMETERS
COL  1- 5 =     8
COL  6-10 =   101
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                      0960


INTERCORRELATION ANALYSIS.


MEANS            1         2         3         4         5         6         7         8
              3.4030    2.6149    1.5545    1.0604    7.1340    4.4085    2.7254    0.5644


SIGMAS           1         2         3         4         5         6         7         8
              0.8008    0.5445    1.4114    1.2653    2.7593    4.3197    3.6034    0.4958


R MATRIX         1         2         3         4         5         6         7         8

        1     1.0000    0.7485    0.3480   -0.0660    0.7447    0.4218    0.0645    0.2352

        2     0.7485    1.0000    0.4474   -0.0687    0.9890    0.5494    0.0987    0.2917

        3     0.3480    0.4474    1.0000   -0.9230    0.4443    0.9787   -0.8330    0.9676

        4    -0.0660   -0.0687   -0.9230    1.0000   -0.0700   -0.8553    0.9717   -0.9539

        5     0.7447    0.9890    0.4443   -0.0700    1.0000    0.5574    0.0975    0.2795

        6     0.4218    0.5494    0.9787   -0.8553    0.5574    1.0000   -0.7719    0.8967

        7     0.0645    0.0987   -0.8330    0.9717    0.0975   -0.7719    1.0000   -0.8609

        8     0.2352    0.2917    0.9676   -0.9539    0.2795    0.8967   -0.8609    1.0000
```

80.71

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```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.7475       RSQ = 0.5588        109 ITERATIONS.

  V       BETA        B
  3     0.1211     0.0687
  4     0.1637     0.1036
  6     1.0144     0.1881
  7     0.9327     0.2073
  8     0.1675     0.2705
REG. CONST. =      1.6397


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.7477       RSQ = 0.5591          9 ITERATIONS.

  V       BETA        B
  3     0.0        0.0
  4     0.2719     0.1721
  5     0.6787     0.1970
  8     0.3045     0.4917
REG. CONST. =      1.5377


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.7487       RSQ = 0.5605          4 ITERATIONS.

  V       BETA        B
  3     1.9355     1.0981
  4     1.7237     1.0909
  8     0.0035     0.0056
REG. CONST. =      0.5360
```

```
MODEL   4 M4   CRITERION =   1

PREDICTORS =   2- 2   8- 8

R = 0.7487       RSQ = 0.5606           2 ITERATIONS.

  V       BETA       B
  2     0.7431    1.0929
  8     0.0184    0.0297
REG. CONST. =     0.5285


MODEL   5 M5   CRITERICN =   1

PREDICTORS =   2- 2

R = 0.7485       RSQ = 0.5603           1 ITERATICNS.

  V       BETA       B
  2     0.7485    1.1008
REG. CONST. =     0.5246

F-TEST   1    MODEL 1 VS MODEL 2
RSQ FULL =        0.5588       MODEL   1
RSQ REDUCED = 0.5591       MODEL   2
DIFFFRENCE = -0.0003
DFN =  1.      DFD =    95.      F-RATIC =     0.0        P = 1.0000

F-TEST   2    MODEL 2 VS MODEL 3
RSQ FULL =        0.5591       MODEL   2
RSQ REDUCED = 0.5605       MODEL   3
DIFFERENCE = -0.0014
DFN =  1.      DFD =    96.      F-RATIC =     0.0        P = 1.0000

F-TEST   3    MODEL 3 VS MODEL 4
RSQ FULL =        0.5605       MODEL   3
RSQ REDUCED = 0.5606       MODEL   4
DIFFERENCE = -0.0001
DFN =  1.      DFD =    97.      F-RATIO =     0.0        P = 1.0000

F-TEST   4    MODEL 4 VS MODEL 5
RSQ FULL =        0.5606       MODEL   4
RSQ REDUCED = 0.5603       MODEL   5
DIFFERENCE =  0.0003
DFN =  1.      DFD =    98.      F-RATIC =     0.069      P = 0.7891
```

```
ANALYSIS 4 -- RAINBOW KIT -- GRADE 5                                    0940

PARAMETERS
COL   1- 5 =     8
COL   6-10 =    90
COL  11-15 =     5
COL  16-20 =     4
COL  21-25 =     1

DATA FORMAT = (DUMMY)
                                                                              0960

INTERCORRELATION ANALYSIS.

MEANS            1          2          3          4          5          6          7          8
            4.3500     3.3878     2.0922     1.2956    12.0048     7.7343     4.2704     0.5889

SIGMAS           1          2          3          4          5          6          7          8
            1.0128     0.7265     1.8322     1.6100     4.6978     7.4561     5.7038     0.4920

R MATRIX         1          2          3          4          5          6          7          8

      1     1.0000     0.7399     0.4134    -0.1366     0.7422     0.5091    -0.0542     0.2464

      2     0.7399     1.0000     0.4856    -0.1014     0.9907     0.6101     0.0184     0.2719

      3     0.4134     0.4856     1.0000    -0.9189     0.5101     0.9754    -0.8550     0.9541

      4    -0.1366    -0.1014    -0.9189     1.0000    -0.1334    -0.8347     0.9813    -0.9631

      5     0.7422     0.9907     0.5101    -0.1334     1.0000     0.6442    -0.0185     0.2876

      6     0.5091     0.6101     0.9754    -0.8347     0.6442     1.0000    -0.7766     0.8667

      7    -0.0542     0.0184    -0.8550     0.9813    -0.0185    -0.7766     1.0000    -0.8961

      8     0.2464     0.2719     0.9541    -0.9631     0.2876     0.8667    -0.8961     1.0000
```

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80.71

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.7435       RSQ = 0.5527          15 ITERATIONS.

  V       BETA        B
  3     0.0259     0.0143
  4     0.0        0.0
  6     1.1681     0.1587
  7     0.8533     0.1515
  8    -0.0261    -0.0537
REG. CONST. =      2.4773


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.7447       RSQ = 0.5546          82 ITERATIONS.

  V       BETA        B
  3     0.6655     0.3679
  4     0.3017     0.1898
  5     0.5144     0.1109
  8    -0.2481    -0.5106
REG. CONST. =      2.3037


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.7451       RSQ = 0.5551          62 ITERATIONS.

  V       BETA        B
  3     1.9619     1.0845
  4     1.4289     0.8989
  8    -0.2464    -0.5072
REG. CONST. =      1.2150
```

80.71

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.7414     RSQ = 0.5496           2 ITERATIONS.

  V      BETA        B
  2    0.7266    1.0131
  8    0.0488    0.1004
REG. CONST. =    0.8589


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7399     RSQ = 0.5474           1 ITERATIONS.

  V      BETA        B
  2    0.7399    1.0315
REG. CONST. =    0.8553

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.5527     MODEL  1
RSQ REDUCED = 0.5546      MODEL  2
DIFFERENCE = -0.0019
DFN =  1.     DFD =   84.     F-RATIO =   0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.5546     MODEL  2
RSQ REDUCED = 0.5551      MODEL  3
DIFFERENCE = -0.0005
DFN =  1.     DFD =   85.     F-RATIC =   0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.5551     MODEL  3
RSQ REDUCED = 0.5496      MODEL  4
DIFFERENCE =  0.0055
DFN =  1.     DFD =   86.     F-RATIO =   1.067    P = 0.3051

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.5496     MODEL  4
RSQ REDUCED = 0.5474      MODEL  5
DIFFERENCE =  0.0022
DFN =  1.     DFD =   87.     F-RATIO =   0.426    P = 0.5229
```

```
MODEL   1 M1   CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.6973      RSQ = 0.4863          37 ITERATIONS.

  V       BETA        B
  3     0.0        0.0
  4     0.0099     0.0042
  6     1.2822     0.1103
  7     0.8736     0.0811
  8    -0.1710    -0.3100
REG. CONST. =      3.4233


MODEL   2 M2   CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.6985      RSQ = 0.4879          27 ITERATIONS.

  V       BETA        B
  3     0.6829     0.2797
  4     0.0267     0.0114
  5     0.5421     0.0783
  8    -0.5094    -0.9236
REG. CONST. =      3.4444


MODEL   3 M3   CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.7029      RSQ = 0.4941          87 ITERATIONS.

  V       BETA        B
  3     2.2140     0.9067
  4     1.6284     0.6932
  8    -0.3699    -0.6706
REG. CONST. =      1.9984
```

80.71

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.6953      RSQ = 0.4835          2 ITERATIONS.

  V      BETA       B
  2    0.6701    0.7997
  8    0.1259    0.2283
REG. CONST. =    1.5590


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6840      RSQ = 0.4678          1 ITERATICNS.

  V      BETA       B
  2    0.6840    0.8163
REG. CONST. =    1.5847


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.4863      MODEL  1
RSQ REDUCED = 0.4879      MODEL  2
DIFFERENCE = -0.0016
DFN =  1.      DFD =   73.      F-RATIC =   0.0      P = 1.0000

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.4879      MODEL  2
RSQ REDUCED = 0.4941      MODEL  3
DIFFERENCE = -0.0062
DFN =  1.      DFD =   74.      F-RATIC =   0.0      P = 1.COCO

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.4941      MODEL  3
RSQ REDUCED = 0.4835      MODEL  4
DIFFERENCE =  0.0106
DFN =  1.      DFD =   75.      F-RATIC =   1.578    P = 0.21C5

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.4835      MODEL  4
RSQ REDUCED = 0.4678      MODEL  5
DIFFERENCE =  0.0157
DFN =  1.      DFD =   76.      F-RATIC =   2.304    P = 0.1293
```

LINEAR MODEL FOR MODEL C

Model: $Y = a_0U + a_1X^{(1)} + E$

Where,

Y = April, 1981 ITBS Average Reading Grade Equivalent

U = unit vector

$X^{(1)}$ = April, 1980 ITBS Average Reading Grade Equivalent

SEPARATE REGRESSION ANALYSES FOR TITLE I AND COMPARISON STUDENTS AT GRADES 2-6: MODEL C ANALYSES

80.71

```
      *** OUTPUT FROM PROGRAM REGPAN ***

  MODEL C -- GRADE 2 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- TITLE I <=40

  PARAMETERS
  COL  1- 5 =      2
  COL  6-10 =    312
  COL 11-15 =      1
  COL 16-20 =      0
  COL 21-25 =      1

  DATA FORMAT = (DUMMY)


  INTERCORRELATION ANALYSIS.


  MEANS                 1          2
                     1.8782     1.0763


  SIGMAS                1          2
                     0.6518     0.3337


  R MATRIX              1          2

        1            1.0000     0.2535

        2            0.2535     1.0000


  MODEL  1 M1  CRITERION =  1

  PREDICTORS =  2- 2

  R = 0.2535      RSQ = 0.0642           1 ITERATIONS.

    V      BETA         B
    2    0.2535      0.4950
  REG. CONST. =      1.3454
```

D-202

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```
ANALYSIS 4 -- RAINBOW KIT -- GRADE 6                                                          0940

PARAMETERS
COL   1- 5 =      8
COL   6-10 =     79
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)                                                                               0960


INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
              5.0101     4.1962     1.7937     2.4025    18.1695     7.9849    10.1845     0.4177

SIGMAS             1          2          3          4          5          6          7          8
              0.8942     0.7493     2.1835     2.1006     6.1919    10.4001     9.6345     0.4932

R MATRIX           1          2          3          4          5          6          7          8

       1      1.0000     0.6840     0.3276    -0.0966     0.6800     0.4117    -0.0074     0.1999

       2      0.6840     1.0000     0.2802     0.0655     0.9957     0.3986     0.2097     0.1105

       3      0.3276     0.2802     1.0000    -0.9396     0.2975     0.9816    -0.8684     0.9699

       4     -0.0966     0.0655    -0.9396     1.0000     0.0459    -0.8781     0.9774    -0.9687

       5      0.6800     0.9957     0.2975     0.0459     1.0000     0.4168     0.1928     0.1294

       6      0.4117     0.3986     0.9816    -0.8781     0.4168     1.0000    -0.8116     0.9065

       7     -0.0074     0.2097    -0.8684     0.9774     0.1928    -0.8116     1.0000    -0.8953

       8      0.1999     0.1105     0.9699    -0.9687     0.1294     0.9065    -0.8953     1.0000
```

80.71

D-197

```
      *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 2 --- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- NON-TITLE I >40

PARAMETERS
COL   1- 5 =      2
COL   6-10 =    633
COL  11-15 =      1
COL  16-20 =      0
COL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                  1           2
                  3.3918      2.4940


SIGMAS                 1           2
                  0.9362      0.6573


R MATRIX               1           2

      1           1.0000      0.7636

      2           0.7636      1.0000



MODEL   1 M1   CRITERION =  1

PREDICTORS =  2- 2

R = 0.7636     RSQ = 0.5831           1 ITERATIONS.

  V       BETA        B
  2     0.7636     1.0875
REG. CONST. =      0.6795
```

80.71

D-203

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 3 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- TITLE I <=40

PARAMETERS
COL   1- 5 =      2
COL   6-10 =    357
COL  11-15 =      1
COL  16-20 =      0
COL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS               1          2
               2.6611     1.7490


SIGMAS              1          2
               0.6662     0.4501


R MATRIX            1          2

      1        1.0000     0.5313

      2        0.5313     1.0000


MODEL   1 M1   CRITERION =  1

PREDICTORS =  2- 2

R = 0.5313      RSQ = 0.2822          1 ITERATIONS.

  V      BETA        B
  2    0.5313    0.7863
```

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```
      *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 3 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- NON-TITLE I >40

PARAMETERS
COL  1- 5 =      2
COL  6-10 =    658
COL 11-15 =      1
COL 16-20 =      0
COL 21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                  1          2
                    4.4813     3.6565


SIGMAS                 1          2
                    0.9299     0.7563


R MATRIX               1          2

       1            1.0000     0.7323

       2            0.7323     1.0000



MODEL  1 M1  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7323     RSQ = 0.5362          1 ITERATIONS.

  V      BETA        B
  2     0.7323    0.9005
REG. CONST. =     1.1888
```

```
     *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 4 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- TITLE I <=40

PARAMETERS
COL   1- 5 =      2
COL   6-10 =    345
COL  11-15 =      1
COL  16-20 =      0
COL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                 1           2
                 3.4614      2.6255


SIGMAS                1           2
                 0.8476      0.5746


R MATRIX              1           2

        1        1.0000      0.6915

        2        0.6915      1.0000



MODEL   1 M1  CRITERION =  1

PREDICTORS =  2- 2

R = 0.6915      RSQ = 0.4782             1 ITERATIONS.

  V       BETA         B
  2    0.6915     1.0200
REG. CONST. =     0.7833
```

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80.71

D-207

BEST COPY AVAILABLE

```
*** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 4 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- NON-TITLE I >40

PARAMETERS
COL   1- 5 =      2
COL   6-10 =    445
COL  11-15 =      1
COL  16-20 =      0
COL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                  1          2
                  5.8589     4.6786


SIGMAS                 1          2
                  1.1674     0.7184


R MATRIX               1          2

      1           1.0000     0.7865

      2           0.7865     1.0000



MODEL  1 M1   CRITERION =  1

PREDICTORS =  2- 2

R = 0.7865      RSQ = 0.6185            1 ITERATIONS.

  V       BETA        B
  2     0.7865    1.2780
REG. CONST. =    -0.1203
```

80.71

```
     *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 5 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- TITLE I <=40

PARAMETERS
COL   1- 5 =      2
COL   6-10 =    318
COL  11-15 =      1
COL  16-20 =      0
COL  21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                  1            2
                  4.2657       3.3252


SIGMAS                 1            2
                  1.0299       0.7434


R MATRIX               1            2

       1          1.0000       0.7754

       2          0.7754       1.0000


MODEL   1 M1  CRITERION =   1

PREDICTORS =  2- 2

R = 0.7754     RSQ = 0.6012            1 ITERATIONS.

  V       BETA        B
  2     0.7754     1.0741
REG. CONST. =      0.6941
```

D-208

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80.71

```
*** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 5 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- NON-TITLE I >40

PARAMETERS
COL  1- 5 =      2
COL  6-10 =    442
COL 11-15 =      1
COL 16-20 =      0
COL 21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS                1            2
                7.3495       6.1704


SIGMAS               1            2
                1.3368       1.0417


R MATRIX             1            2

        1       1.0000       0.8658

        2       0.8658       1.0000


MODEL  1 MI  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8658      RSQ = 0.7496           1 ITERATIONS.

  V      BETA         B
  2    0.8658    1.1111
REG. CONST. =    0.4935
```

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80.71

D-210

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```
     *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 6 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- TITLE I <=40

PARAMETERS
COL  1- 5 =      2
COL  6-10 =    288
COL 11-15 =      1
COL 16-20 =      0
COL 21-25 =      1

DATA FORMAT = (DUMMY)


INTERCORRELATION ANALYSIS.


MEANS              1          2
                4.9899     4.0760


SIGMAS             1          2
                1.0493     0.8660


R MATRIX           1          2

      1         1.0000     0.7359

      2         0.7359     1.0000



MODEL  1 M1  CRITERION =  1

PREDICTORS =  2- 2

R = 0.7359     RSQ = 0.5416          1 ITERATIONS.

  V      BETA       B
  2    0.7359    0.8917
REG. CONST. =    1.3552
```

```
      *** OUTPUT FROM PROGRAM REGRAN ***

    MODEL C -- GRADE 6 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E. -- NON-TITLE I >40

    PARAMETERS
    COL  1- 5 =       2
    COL  6-10 =     461
    COL 11-15 =       1
    COL 16-20 =       0
    COL 21-25 =       1

    DATA FORMAT = (DUMMY)


    INTERCORRELATION ANALYSIS.


    MEANS                 1           2
                       8.3865      7.2282


    SIGMAS                1           2
                       1.4898      1.2272


    R MATRIX              1           2

          1            1.0000      0.8770

          2            0.8770      1.0000


    MODEL   1 M1  CRITERION =  1

    PREDICTORS =  2- 2

    R = 0.8770      RSQ = 0.7691          1 ITERATIONS.

      V       BETA         B
      2     0.8770      1.0646
    REG. CONST. =      0.6911
```

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ANALYSES TO COMPARE REGRESSION SLOPES AND INTERCEPTS OF MODEL C DATA, GRADES 2-6.

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```
MODEL C -- GRADE 2 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.                0480

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    945
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                              0500

INTERCORRELATION ANALYSIS.

MEANS           1          2          3          4          5          6          7          8
           2.8921     2.0259     0.3553     1.6706     4.8751     0.4192     4.4558     0.3302

SIGMAS          1          2          3          4          5          6          7          8
           1.1108     0.8779     0.5412     1.2903     3.9139     0.6961     4.3093     0.4703

R MATRIX        1          2          3          4          5          6          7          8

      1    1.0000     0.8281    -0.5689     0.8020     0.8174    -0.5041     0.8236    -0.6408

      2    0.8281     1.0000    -0.6328     0.9458     0.9699    -0.5431     0.9686    -0.7594

      3   -0.5689    -0.6328     1.0000    -0.8500    -0.5735     0.9781    -0.6789     0.9351

      4    0.8020     0.9458    -0.8500     1.0000     0.9004    -0.7797     0.9438    -0.9089

      5    0.8174     0.9699    -0.5735     0.9004     1.0000    -0.5078     0.9903    -0.6467

      6   -0.5041    -0.5431     0.9781    -0.7797    -0.5078     1.0000    -0.6227     0.8578

      7    0.8238     0.9686    -0.6789     0.9438     0.9903    -0.6227     1.0000    -0.7259

      8   -0.6408    -0.7594     0.9351    -0.9089    -0.6467     0.8578    -0.7259     1.0000
```

80.71

D-214

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.8341      RSQ = 0.6957          59 ITERATICNS.

   V       BETA         B
   3     0.0         0.0
   4     1.0830      0.9323
   6     0.1784      0.2848
   7     0.1062      0.0274
   8     0.2658      0.6279
REG. CONST. =        0.8859


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.8338      RSQ = 0.6952          36 ITEFATICNS.

   V       BETA         B
   3     0.2192      0.4498
   4     0.9948      C.8564
   5     0.1447      C.0411
   8     0.1501      0.3546
REG. CONST. =        0.9844


MODEL  3 M3  CRITERICN =  1

PREDICTORS =  3- 4  8- 8

R = 0.8338      RSQ = 0.6953          22 ITEPATICNS.

   V       BETA         B
   3     0.2560      0.5253
   4     1.2553      1.0806
   8     0.2589      0.6115
REG. CONST. =        0.6982
```

80.71

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.8283     RSQ = 0.6860          2 ITERATIONS.

  V       BETA        B
  2     0.8067    1.0207
  8    -0.0281   -0.0664
REG. CONST. =    0.8460


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8281     RSQ = 0.6857          1 ITERATIONS.

  V       BETA        B
  2     0.8281    1.0478
REG. CONST. =    0.7693

F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.6957     MODEL  1
RSQ REDUCED = 0.6952     MODEL  2
DIFFERENCE =  0.0006
DFN =  1.      DFD =  939.     F-RATIO =    1.793   P = 0.1774

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.6952     MODEL  2
RSQ REDUCED = 0.6953     MODEL  3
DIFFERENCE = -0.0001
DFN =  1.      DFD =  940.     F-RATIO =    0.0     P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.6953     MODEL  3
RSQ REDUCED = 0.6860     MODEL  4
DIFFERENCE =  0.0092
DFN =  1.      DFD =  941.     F-RATIO =   28.531   P = 0.0000

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.6860     MODEL  4
RSQ REDUCED = 0.6857     MODEL  5
DIFFERENCE =  0.0003
DFN =  1.      DFD =  942.     F-RATIO =    1.005   P = 0.3175
```

```
MODEL C -- GRADE 3 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.                  0480

PARAMETERS
COL  1- 5 =     8
COL  6-10 =  1015
COL 11-15 =     5
COL 16-20 =     4
COL 21-25 =     1

DATA FORMAT = (DUMMY)                                                                  0500


INTERCORRELATION ANALYSIS.


MEANS            1          2          3          4          5          6          7          8
              3.8411     2.9856     0.6152     2.3704    10.1856     1.1472     9.0384     0.3517


SIGMAS           1          2          3          4          5          6          7          8
              1.2133     1.1277     0.8768     1.8492     7.0726     1.8056     8.2158     0.4775


R MATRIX         1          2          3          4          5          6          7          8

        1     1.0000     0.8636    -0.6297     0.8252     0.8385    -0.5300     0.8383    -0.7164

        2     0.8636     1.0000    -0.6973     0.9405     0.9778    -0.5783     0.9668    -0.8077

        3    -0.6297    -0.6973     1.0000    -0.8994    -0.6480     0.9739    -0.7719     0.9525

        4     0.8252     0.9405    -0.8994     1.0000     0.9035    -0.8145     0.9568    -0.9442

        5     0.8385     0.9778    -0.6480     0.9035     1.0000    -0.5567     0.9832    -0.7211

        6    -0.5300    -0.5783     0.9739    -0.8145    -0.5567     1.0000    -0.6990     0.8626

        7     0.8383     0.9688    -0.7719     0.9568     0.9832    -0.6990     1.0000    -0.8103

        8    -0.7164    -0.8077     0.9525    -0.9442    -0.7211     0.8626    -0.8103     1.0000
```

80.71

D-217

80.71

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.8680      RSQ = C.7533        123 ITERATICNS.

   V       BETA        B
   3     0.C         0.0
   4     3.0878      2.0261
   6     0.3565      0.2396
   7    -0.9763     -0.1442
   8     1.0990      2.7926
 REG. CCNST. =      -0.9155


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.8671      RSQ = 0.7518        143 ITERATICNS.

   V       BETA        B
   3     0.8948      1.2383
   4     2.7566      1.8087
   5    -0.6828     -0.1171
   8     0.5401      1.3724
 REG. CONST. =      -0.4978


MODEL  3 M3  CRITERICN =  1

PREDICTORS =  3- 4  8- 8

R = 0.8644      RSQ = 0.7472          4 ITERATICNS.

   V       BETA        B
   3     0.5854      C.8101
   4     1.3578      0.8909
   8     0.C065      0.0165
 REG. CONST. =       1.2250
```

80.71

```
MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.8642      RSQ = 0.7468          2 ITERATIONS.

  V       BETA         B
  2     0.8198     0.8820
  8    -0.0542    -0.1377
REG. CONST. =     1.2561


MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.8636      RSQ = 0.7457          1 ITERATIONS.

  V       BETA         B
  2     0.8636     0.9292
REG. CONST. =     1.0670


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.7533     MODEL  1
RSQ REDUCED = 0.7518     MODEL  2
DIFFERENCE =  0.0015
DFN =  1.      DFD = 1009.     F-RATIO =   6.261   P = 0.0120

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.7518     MODEL  2
RSQ REDUCED = 0.7472     MODEL  3
DIFFERENCE =  0.0046
DFN =  1.      DFD = 1010.     F-RATIO =  18.621   P = 0.0001

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.7472     MODEL  3
RSQ REDUCED = 0.7468     MODEL  4
DIFFERENCE =  0.0005
DFN =  1.      DFD = 1011.     F-RATIO =   1.906   P = 0.1640

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.7468     MODEL  4
RSQ REDUCED = 0.7457     MODEL  5
DIFFERENCE =  0.0010
DFN =  1.      DFD = 1012.     F-RATIO =   4.081   P = 0.0410
```

```
MODEL C -- GRADE 4 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.              0480

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    790
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)
                                                                                    0500

INTERCORRELATION ANALYSIS.

MEANS           1          2          3          4          5          6          7          8
           4.8119     3.7820     1.1466     2.6354    15.7756     3.1546    12.6210     0.4367

SIGMAS          1          2          3          4          5          6          7          8
           1.5796     1.2132     1.3564     2.3823     9.3662     4.0654    12.2811     0.4960

R MATRIX        1          2          3          4          5          6          7          8

       1   1.0000     0.9024    -0.6540     0.8319     0.8994    -0.5472     0.8671    -0.7527

       2   0.9024     1.0000    -0.7182     0.9182     0.9856    -0.5932     0.9480    -0.8394

       3  -0.6540    -0.7182     1.0000    -0.9351    -0.7149     0.9771    -0.8687     0.9600

       4   0.8319     0.9182    -0.9351     1.0000     0.9090    -0.8584     0.9774    -0.9741

       5   0.8994     0.9856    -0.7149     0.9090     1.0000    -0.6115     0.9651    -0.8040

       6  -0.5472    -0.5932     0.9771    -0.8584    -0.6115     1.0000    -0.7974     0.8813

       7   0.8671     0.9480    -0.8687     0.9774     0.9651    -0.7974     1.0000    -0.9049

       8  -0.7527    -0.8394     0.9600    -0.9741    -0.8040     0.8813    -0.9049     1.0000
```

80.71

D-220

```
MODEL  1 M1  CRITERICN =  1

PREDICTORS =  3- 4  6- 8

R = 0.9043      RSQ = 0.8177          12 ITERATICNS.

  V       BETA       B
  3     0.0        0.0
  4     0.0        0.0
  6     0.5175     0.2011
  7     1.0336     0.1329
  8    -0.2720    -0.8663
REG. CONST. =      2.8780


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.9044      RSQ = 0.8179          6 ITERATICNS.

  V       BETA       B
  3     0.3033     0.3532
  4     0.0        0.0
  5     0.7805     0.1316
  8    -0.4176    -1.3299
REG. CONST. =      2.9110


MODEL  3 M3  CRITERICN =  1

PREDICTORS =  3- 4  8- 8

R = 0.9039      RSQ = 0.8170          30 ITERATICNS.

  V       BETA       B
  3     0.8969     1.0445
  4     1.8989     1.2591
  8     0.2341     0.7455
REG. CONST. =     -0.0295


MODEL  4 M4  CRITERICN =  1

PREDICTORS =  2- 2  8- 8

R = 0.9025      RSQ = 0.8145          2 ITERATICNS.

  V       BETA       B
  2     0.9158     1.1925
  8     0.0160     0.0509
REG. CONST. =      0.2798
```

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MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.9024     RSQ = 0.8144          1 ITERATIONS.

  V      BETA       B
  2    0.9024    1.1750
REG. CONST. =    0.3680


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.8177     MODEL  1
RSQ REDUCED = 0.8179      MODEL  2
DIFFERENCE = -0.0002
DFN =  1.     DFD =  784.     F-RATIO =    0.0      P = 1.0000


F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.8179     MODEL  2
RSQ REDUCED = 0.8170      MODEL  3
DIFFERENCE =  0.0010
DFN =  1.     DFD =  785.     F-RATIO =   4.162    P = 0.0391


F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.8170     MODEL  3
RSQ REDUCED = 0.8145      MODEL  4
DIFFERENCE =  0.0025
DFN =  1.     DFD =  786.     F-RATIO =  10.695    P = 0.0015


F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.8145     MODEL  4
RSQ REDUCED = 0.8144      MODEL  5
DIFFERENCE =  0.0001
DFN =  1.     DFD =  737.     F-RATIO =   0.320    P = 0.5791
```

```
     *** OUTPUT FRCM PROGRAM REGRAN ***

MODEL C -- GRADE 5 -- 4-80/4-81 ITBS AVG. READING TCTAL G.E.                 0480

PARAMETERS
COL   1- 5 =      8
COL   6-10 =    760
COL  11-15 =      5
COL  16-20 =      4
COL  21-25 =      1

DATA FORMAT = (DUMMY)
                                                                                   0500

INTERCORRELATION ANALYSIS.


MEANS              1          2          3          4          5          6          7          8
                6.0592     4.9799     1.3913     3.5886    27.6313     4.8576    22.7737     0.4184

SIGMAS             1          2          3          4          5          6          7          8
                1.9487     1.6829     1.7093     3.1458    17.3023     6.4834    21.8766     0.4933

R MATRIX           1          2          3          4          5          6          7          8

         1      1.0000     0.9406    -0.6746     0.8697     0.9275    -0.5636     0.9006    -0.7807

         2      0.9406     1.0000    -0.7199     0.9262     0.9837    -0.6041     0.9571    -0.8340

         3     -0.6746    -0.7199     1.0000    -0.9285    -0.7048     0.9782    -0.8473     0.9596

         4      0.8697     0.9262    -0.9285     1.0000     0.9092    -0.8547     0.9724    -0.9676

         5      0.9275     0.9837    -0.7048     0.9092     1.0000    -0.6114     0.9721    -0.7854

         6     -0.5636    -0.6041     0.9782    -0.8547    -0.6114     1.0000    -0.7800     0.8833

         7      0.9006     0.9571    -0.8473     0.9724     0.9721    -0.7800     1.0000    -0.8830

         8     -0.7807    -0.8340     0.9596    -0.9676    -0.7854     0.8833    -0.8830     1.0000
```

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```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.9404      RSQ = 0.8843          13 ITERATIONS.

  V      BETA        B
  3     0.0        0.0
  4     0.0500     0.0310
  6     0.5674     0.1706
  7     0.9307     0.0829
  8    -0.4130    -1.6316
REG. CONST. =      3.9142


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.9400      RSQ = 0.8836          6 ITERATIONS.

  V      BETA        B
  3     0.4672     0.5327
  4     0.0        0.0
  5     0.7584     0.0854
  8    -0.6346    -2.5068
REG. CONST. =      4.0069


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.9406      RSQ = 0.8848          3 ITERATIONS.

  V      BETA        B
  3     0.9699     1.1057
  4     1.7749     1.0995
  8     0.0060     0.0239
REG. CONST. =      0.5653


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.9406      RSQ = 0.8848          2 ITERATIONS.

  V      BETA        B
  2     0.9510     1.1012
  8     0.0125     0.0493
REG. CONST. =      0.5547
```

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```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.9406      RSQ = 0.8847            1 ITERATIONS.

  V       BETA         B
  2     0.9406      1.0891
REG. CONST. =      0.6354


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =      0.8843      MODEL  1
RSQ REDUCED = 0.8836      MODEL  2
DIFFERENCE =  0.0007
DFN =  1.       DFD =  754.     F-RATIO =   4.625   P = 0.0298

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =      0.8836      MODEL  2
RSQ REDUCED = 0.8848      MODEL  3
DIFFERENCE = -0.0011
DFN =  1.       DFD =  755.     F-RATIO =   0.0      P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =      0.8848      MODEL  3
RSQ REDUCED = 0.8848      MODEL  4
DIFFERENCE = -0.0000
DFN =  1.       DFD =  756.     F-RATIO =   0.0      P = 1.0000

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =      0.8848      MODEL  4
RSQ REDUCED = 0.8847      MODEL  5
DIFFERENCE =  0.0000
DFN =  1.       DFD =  757.     F-RATIO =   0.312   P = 0.5838
```

80.71

```
     *** OUTPUT FROM PROGRAM REGRAN ***

MODEL C -- GRADE 6 -- 4-80/4-81 ITBS AVG. READING TOTAL G.E.                C480

PARAMETERS
COL  1- 5 =      8
COL  6-10 =    749
COL 11-15 =      5
COL 16-20 =      4
COL 21-25 =      1

DATA FORMAT = (DUMMY)                                                                  0500


INTERCORRELATION ANALYSIS.


MEANS               1          2          3          4          5          6          7          8
               7.0805     6.0162     1.5673     4.4489    39.7609     6.6767    33.0842     0.3845


SIGMAS              1          2          3          4          5          6          7          8
               2.1260     1.8886     2.0543     3.6458    23.2740     9.4473    29.9034     0.4865


R MATRIX            1          2          3          4          5          6          7          8

          1    1.0000     0.9409    -0.6913     0.8770     0.9299    -0.5940     0.9114    -0.7772

          2    0.9409     1.0000    -0.7094     0.9178     0.9846    -0.5996     0.9557    -0.8120

          3   -0.6913    -0.7094     1.0000    -0.9310    -0.6870     0.9792    -0.8441     0.9652

          4    0.8770     0.9178    -0.9310     1.0000     0.8971    -0.8624     0.9707    -0.9645

          5    0.9299     0.9846    -0.6870     0.8971     1.0000    -0.5987     0.9675    -0.7606

          6   -0.5940    -0.5996     0.9792    -0.8624    -0.5987     1.0000    -0.7819     0.8941

          7    0.9114     0.9557    -0.8441     0.9707     0.9675    -0.7819     1.0000    -0.8745

          8   -0.7772    -0.8120     0.9652    -0.9645    -0.7606     0.8941    -0.8745     1.0000
```

D-226

80.71

```
MODEL  1 M1  CRITERION =  1

PREDICTORS =  3- 4  6- 8

R = 0.9407      RSQ = 0.8850          82 ITERATIONS.

  V       BETA        B
  3     0.0577     0.0597
  4     0.5146     0.3001
  6     0.4785     0.1077
  7     0.7036     0.0500
  8    -0.1500    -0.6554
REG. CONST. =     3.5299


MODEL  2 M2  CRITERION =  1

PREDICTORS =  3- 5  8- 8

R = 0.9398      RSQ = 0.8833          10 ITERATIONS.

  V       BETA        B
  3     0.3229     0.3342
  4     0.0        0.0
  5     0.7654     0.0699
  8    -0.5079    -2.2197
REG. CONST. =     4.6303


MODEL  3 M3  CRITERION =  1

PREDICTORS =  3- 4  8- 8

R = 0.9419      RSQ = 0.8872          21 ITERATIONS.

  V       BETA        B
  3     0.8919     0.9230
  4     1.8111     1.0561
  8     0.1087     0.4751
REG. CONST. =     0.7526


MODEL  4 M4  CRITERION =  1

PREDICTORS =  2- 2  8- 8

R = 0.9412      RSQ = 0.8858          2 ITERATIONS.

  V       BETA        B
  2     0.9093     1.0236
  8    -0.0389    -0.1700
REG. CONST. =     0.9876
```

80.71

```
MODEL  5 M5  CRITERION =  1

PREDICTORS =  2- 2

R = 0.9409     RSQ = 0.8853          1 ITERATIONS.

  V      BETA       B
  2     0.9409    1.0592
REG. CONST. =    0.7083


F-TEST  1   MODEL 1 VS MODEL 2
RSQ FULL =     0.8850      MODEL  1
RSQ REDUCED = 0.8833      MODEL  2
DIFFERENCE =  0.0017
DFN =  1.     DFD =  743.     F-RATIO =  10.894   P = 0.0014

F-TEST  2   MODEL 2 VS MODEL 3
RSQ FULL =     0.8833      MODEL  2
RSQ REDUCED = 0.8872      MODEL  3
DIFFERENCE = -0.0039
DFN =  1.     DFD =  744.     F-RATIO =   0.0     P = 1.0000

F-TEST  3   MODEL 3 VS MODEL 4
RSQ FULL =     0.8872      MODEL  3
RSQ REDUCED = 0.8858      MODEL  4
DIFFERENCE =  0.0014
DFN =  1.     DFD =  745.     F-RATIO =   9.093   P = 0.0030

F-TEST  4   MODEL 4 VS MODEL 5
RSQ FULL =     0.8858      MODEL  4
RSQ REDUCED = 0.8853      MODEL  5
DIFFERENCE =  0.0005
DFN =  1.     DFD =  746.     F-RATIO =   3.369   P = 0.0633
```

ESEA Title I

Appendix E

PREKINDERGARTEN OBSERVATIONS

430

Instrument Description: Early Childhood Observation Form

Brief description of the instrument:

This observation instrument was designed to collect information on the activities of a pre-kindergarten student on a minute-to-minute basis during the school day. The variables observed include language spoken, group size, activity, identification of the adults working with students in an instructional capacity, identification of the individuals primarily responsible for the instruction, adult contact, and curriculum used. Space was provided for the observer to note what is occurring as well as coding the information.

To whom was the instrument administered?

In each of the 84 full day observations conducted, one child was observed throughout that day. The children observed were randomly chosen from the class rolls by the Title I Migrant Evaluator.

How many times was the instrument administered?

Each Migrant pre-K class was observed 7 times (this includes the 2 classes funded 50% Migrant/50% Title I) and each Title I pre-K class was observed 3 times.

When was the instrument administered?

From December 3, 1980 through April 30, 1981.

Where was the instrument administered?

In the pre-K classroom, or wherever the student under observation was.

Who administered the instrument?

The two Title I Migrant pre-K observers.

What training did the administrators have?

Both observers were former teachers and had training with the Title I Observer on observation processes. Also the observers did several practice observations in pre-K classes to train with feedback after each practice session.

Was the instrument administered under standardized conditions?

Classroom situations varied.

Were there problems with the instrument or the administration that might affect the validity of the data?

None were identified.

Who developed the instrument?

The instrument has been developed and refined by the Title I and Title I Migrant Evaluators over the last several years.

What reliability and validity data are available on the instrument?

The observation form was virtually unchanged from 1979-80 so comparison data were available.

Are there norm data available for interpreting the results?

No.

BEST COPY AVAILABLE

PREKINDERGARTEN OBSERVATIONS

Purpose

Information from Early Childhood Observation Forms was used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1980-81.

> Decision Question D4: Should the Title I Early Childhood Education Program be continued, modified, or discontinued? If so, how?
>
> > Evaluation Question D4-2: How was the program implemented?

Procedure

The Early Childhood Observation Form was developed during 1979-80 for use in evaluating and comparing the Title I and Migrant pre-K programs. The final version of the form was developed by the Title I and Migrant Evaluators and their staffs after field-testing and consideration of the input from the Early Childhood Coordinator. After again reviewing the form with the Early Childhood Coordinator and the Title I Evaluator, it was decided to use the form (Attachments E-1 and E-2) and the instructions (Attachment E-3) again for 1980-81.

The design of the Early Childhood Observation Form provides for the observation of one student's classroom activities for the period of one instructional day. Day-long observation of randomly selected students, combined with a random selection of observation days, were considered to provide a more representative picture of the on-going instructional activities than would a briefer observation.

Some research evidence indicates the presence of an observer in the classroom tends to affect the nature of the activities occurring. However, since the presence of an observer was a constant situational variable, it was felt the effect of an observer's presence would be equal for all students and would not affect the validity of comparisons made between groups of students.

The Early Childhood Observation Form employs a time-sample system that requires the observer to record observations at the end of every minute. A one-minute time duration was selected as appropriate, since a period of less than one minute would have required an inordinate amount of attention by the observer to the form, and a period of more than one minute would not have been a sufficiently sensitive indicator of the activities transpiring.

Ten full days of observation on each classroom would be the optimum to do by-class analyses on the observations. It was felt seven observations per class was the minimum number needed in order to do by-class analyses. Therefore seven observations were planned for each Migrant pre-K class and each split-funded class. Title I was not able to do any observations of pre-K classes due to the stress placed on observations at the elementary level. It was felt that observations of Title I classes were a necessity in order to have a comparison group for the Migrant classes. Funds limited the number of observations that could be planned. It was decided that at least 3 observations per Title I class would give a good comparison for Migrant classes. The 3 observations per class were not enough to do by-class analyses, but would be sufficient when aggregated across Title I classes.

Two observers were hired to conduct the observations. Although both were former teachers, extensive training sessions were conducted. Through the cooperation of three pre-kindergarten teachers and their principals three practice sessions were held so the observers could practice conducting observations to familiarize themselves with the form and its directions. On the first of these practice sessions, the Title I pre-K observer from 1979-80 went with them and observed and then went over the form, procedures, and discussed how each minute was coded, etc. After each practice session, the observers met with the Evaluator to discuss questions, clarify procedures, etc.

Attachment E-4 indicates the procedures followed in pairing observation days with classes to be observed.

In November a memo (see Attachment E-5) was sent to the Title I and Migrant pre-kindergarten teachers and their principals explaining the purpose of the observations and the procedures. Included with the memo was a brief explanation of what was to be observed (Attachment E-6).

The following steps were taken with each of the 84 observations:

1) A memo (Attachment E-7) was sent to each pre-K teacher and principal notifying them of the week in which the observation would take place. This memo was sent the week prior to the observation.

2) Students to be observed were randomly selected by the Migrant Evaluator from the most recent records of the class' attendance reports. The observers were given the name of three students in case absences occurred.

3) The observer(s) reported to the school 15 minutes early to check in at the school office and get acquainted with the pre-K teacher in whose classroom the observation was being conducted. At that time the pre-K teacher was asked to identify the three students chosen for observation. The teacher did not know which of the three would actually be observed.

4) After identifying the student to be observed, the observer proceeded to observe the selected student throughout the school day according to the directions in Attachment E-3. During the observations the observer sat in an out-of-the-way place so as not to interfere with classroom activities, but such that the observer could see and hear as many classroom proceedings as possible. Although the observer was allowed to change positions if necessary, walking around the room was avoided whenever possible.

5) The observer did not talk to the students in the classroom. If one of the students began to speak to the observer, the observer told the student she had work to do and could not talk.

6) At the end of the school day, the observer asked the pre-K teacher the name of the curriculum for the instructional activities observed during the day. Also the observer was encouraged to answer any questions the teacher might have about the nature or purpose of the observation, etc., but was requested not to offer any comments about the identity of the student observed or the outcome of the observation. At this time, the observer gave the teacher an Observation Reaction Form (Attachment E-8) to complete and return to the Migrant Evaluator if they wished to comment on the observation.

7) The observers returned the completed observation forms to the Evaluator who then sent the teacher the carbon copy via the school mail.

The data from each completed Early Childhood Observation Form were keypunched and verified at Southwest Educational Development Laboratory. The card file layout used is Attachment E-9. The class assignment list used for the coding purposes is Attachment E-10.

Reliability observations were conducted on December 4, 1980 and January 29, 1981. On both dates, the two observers were in the same classroom and observed the same pre-K student. The intraclass correlation coefficient was used to measure the consistency of the ratings. This correlation assesses judgemental consistency by indicating the relative excess of among-subjects over among-raters variation. Observation totals were compared using program INTRAR of the EDSTAT statistical package at UT. Parameters were as follows:

Number of variable = number of categories of variables
Number of subjects = number of different students observed
Number of data sources = number of observers

In order to obtain interrater reliability coefficients for both December and February, it was necessary to treat each day of observation as two half-days. As a result, reliability coefficients for each of the 33 categories for all four half-days were combined (Figure E-1). Thirty-two of the 33 categories yielded coefficients of 97 or above. In one category no time use was observed. The reliability estimates were considered very acceptable for the purposes of this study.

The data as read from cards are available on UT6634 OBS81. Using program OB4 on 6634 OBS81 was converted to OBTEMP (saved on UT PF 7156). SPSS programs CROSSTABS , MULTRESPONSE, and BREAKDOWN were used to analyze the data (OBTEMP). The SPSS control file used is OBSPS on UT PF A611.

Results

Evaluation Question D1-5: How did the implementation of the Migrant and Title I Early Childhood Programs compare?

The results from the observations are presented in Figures E-2 through E-16. The two Title I/Migrant split-funded classes are included in the Migrant summary.

Examination of Figures E-2 through E-16 reveals:

- Title I teachers spent more time in instructional activities than did migrant teachers (Figure E-2).
- Migrant teachers conducted less formal instruction than did Title I teachers (Figure E-3).
- Title I students took longer naps than did migrant students, and on the average, spent less time at breakfast than did migrant students (Figure E-4).
- Both groups of teachers used English over 96% of the time in their formal instruction (Figure E-5).
- Migrant teachers used slightly more Spanish and English/Spanish mixed than did Title I teachers in informal learning activities (Figure E-6).
- Over the total instructional time observed, English was the predominant language used with Spanish used slightly more in the Migrant classrooms (Figure E-7).
- In formal instruction, the Title I teachers on the average used large groups more than did the Migrant teachers (Figure E-8).
- In informal learning settings, the most frequent group size used by both groups was 2-4 students (Figure E-9).
- Across all learning activities, the Title I teachers generally used a larger group setting than did the Migrant teachers (Figure E-10).
- During formal instruction, the Title I teachers, on the average, had much more instructional contact with their students than did the Migrant teachers. The Migrant aide generally had more instructional contact with students than did the Title I aide (Figure E-11).

- During informal instructional activities, there were only slight differences among the teachers, with Title I teachers having slightly more pupil contact (Figure E-12).

- Across all learning activities, the Migrant teachers had less student contact than did the Title I teachers. The Title I aides had less student contact than did the Migrant aide. Also, several Migrant classes had a student helper who had 11 minutes of pupil contact on the average (Figure E-13).

- The Title I teachers were much more instructionally involved than were the Migrant teachers. The Migrant aides were somewhat more involved than were the Title I aides (Figure E-14).

- The Migrant teachers were less often responsible for instruction than were the Title I teachers. The Title I aides were less often responsible for instruction than were the Migrant aides. There was no one responsible for instruction slightly more in the Migrant class than in the Title I class (Figure E-15).

- Title I teachers used the AISD curriculum 85% of the time and used the other materials the remainder of the time. Migrant teachers used AISD 48% of the time, the BECP 37% of the time, and other materials 15% of the time (Figure E-16).

These data are very similar to the observation data collected in 1979-80 (see ORE publication No. 79.09, Appendix L). The main differences between this year and last are:

- the use of the AISD curriculum has greatly increased in Migrant classes, while use of the BECP has decreased.

- more English is being spoken in the Migrant classes.

- there is a slight decrease in instructional time in the Title I classes.

The observation data obtained for each Migrant and split-funded class are reported in Figures E-17 through E-22. These data should be interpreted cautiously, since more observations per class would guarantee the data obtained to be truly representative of the average classroom activities.

Category	Reliability
Language	
Silence	1.0000
English	.9994
Spanish	.9965
Mixed	.9729
Undetermined	1.0000
Mean Group Size	.9978
No Instruction	
Other	.9893
Breakfast	.9996
Lunch	1.0000
Nap	1.0000
Snack	.9939
Recess	1.0000
Formal Instruction	
Formal Instruction 1	.9965
Formal Instruction 2	1.0000
Informal Instruction	
Informal Instruction 1	*
Informal Instruction 2	.9987
Instructional Involvement	
Teacher	.9963
Aide	.9865
Student Helper	.9983
Other	1.0000
Instructional Responsibility	
Teacher	.9996
Aide	1.0000
Student Helper	.9987
Other	1.0000
No One	.9998
Adult Contact	
Teacher	.9979
Aide	.9753
Student Helper	.9934
Other	1.0000
No One	.9984
Curriculum	
BECP	.9996
AISD	.9995
Other	1.0000

* No time use was observed in this category.

Figure E-1. INTRACLASS CORRELATION ESTIMATES OF INTERRATER RELIABILITY FOR FOUR HALF-DAYS (FOUR SUBJECTS, TWO OBSERVERS).

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Population	No Instruction	Formal Instruction (1 & 2)	Informal Learning (1 & 2)	Total Time
Title I (N = 21)	217 min. (55.8%)	110 min. (28.1%)	63 min. (16.1%)	390 min. (100%)
Migrant/ split-funded (N = 63)	231 min. (59.7%)	96 min. (24.8%)	60 min. (15.5%)	387 min. (100%)

Figure E-2. TIME SPENT IN ALL ACTIVITIES.

Population	Formal Instruction 1	Formal Instruction 2	Informal Learning 1	Informal Learning 2	Total Time
Title I (N = 21)	105 min. (61.2%)	4 min. (2.5%)	12 min. (6.8%)	51 min. (29.6%)	172 min. (100%)
Migrant/ split-funded (N = 63)	92 min. (59.2%)	3 min. (2.0%)	7 min. (4.5%)	53 min. (34.2%)	156 min. (100%)

Figure E-3. TIME SPENT IN INSTRUCTIONAL ACTIVITIES.

Population	Breakfast	Lunch	Nap	Snacks	Recess	Other	Total
Title I (N = 21)	9 min. (4.3%)	31 min. (14.3%)	84 min. (38.8%)	5 min. (2.1%)	22 min. (9.9%)	66 min. (30.5%)	217 min. (100%)
Migrant/ split-funded (N = 63)	21 min. (8.9%)	32 min. (14.0%)	67 min. (29.0%)	6 min. (2.7%)	19 min. (8.2%)	86 min. (37.2%)	231 min. (100%)

Figure E-4. TIME SPENT IN NONINSTRUCTIONAL ACTIVITIES.

Population	English	Spanish	Mixed	Undetermined	Silence	Total
Title I (N = 21)	102 min. (96.9%)	1 min. (1.2%)	1 min. (1.2%)	<1 min. (0.7%)	0 (0%)	105 min. (100%)
Migrant (N = 63)	89 min. (96.2%)	1 min. (1.5%)	2 min. (1.9%)	<1 min. (0.3%)	<1 min. (0%)	92 min. (100%)

Figure E-5. LANGUAGE USED DURING FORMAL INSTRUCTION 1.

Population	English	Spanish	Mixed	Undetermined	Silence	Total
Title I (N = 21)	62 min. (98.9%)	0 (0%)	0 (0%)	<1 min. (0.9%)	<1 min. (0.2%)	63 min. (100%)
Migrant (N = 63)	57 min. (94.8%)	<1 min. (1.3%)	2 min. (2.9%)	<1 min. (0.9%)	<1 min. (0.1%)	60 min. (100%)

Figure E-6. LANGUAGE USED DURING INFORMAL LEARNING ACTIVITIES.

Population	English	Spanish	Mixed	Undetermined	Silence	Total
Title I (N = 21)	164 min. (97.6%)	1 min. (0.8%)	1 min. (0.8%)	1 min. (0.6%)	<1 min. (0.2%)	168 min. (100%)
Migrant (N = 63)	146 min. (96.1%)	2 min. (1.0%)	4 min. (2.3%)	<1 min. (0.5%)	<1 min. (0.1%)	152 min. (100%)

Figure E-7. LANGUAGE USED DURING TOTAL INSTRUCTIONAL TIME OBSERVED.

Population	1	2	5-7	8-10	11-13	14 or more	Total
Title I (N = 21)	<1 min. (0.1%)	7 min. (7.0%)	21 min. (20.3%)	3 min. (2.8%)	16 min. (15.0%)	58 min. (54.8%)	105 min. (100%)
Migrant (N = 63)	1 min. (1.0%)	10 min. (10.8%)	26 min. (28.1%)	13 min. (14.2%)	13 min. (14.2%)	29 min. (31.9%)	92 min. (100%)

Figure E-8. TIME SPENT IN GROUPS OF VARIOUS SIZES DURING FORMAL INSTRUCTION 1.

Population	1	2-4	5-7	8-10	11-13	14 or more	Total
Title I (N = 21)	5 min. (7.5%)	26 min. (41.8%)	18 min. (29.4%)	3 min. (3.5%)	2 min. (3.0%)	9 min. (14.8%)	63 min. (100%)
Migrant (N = 63)	9 min. (15.3%)	33 min. (54.5%)	6 min. (9.5%)	1 min. (1.5%)	4 min. (7.2%)	7 min. (12.0%)	60 min. (100%)

Figure E-9. TIME SPENT IN GROUPS OF VARIOUS SIZES DURING INFORMAL LEARNING ACTIVITIES.

Population	1	2-4	5-7	8-10	11-13	14 or more	Total
Title I (N = 21)	5 min. (3.1%)	33 min. (19.8%)	40 min. (23.8%)	5 min. (3.0%)	18 min. (10.6%)	67 min. (39.9%)	168 min. (100%)
Migrant (N = 63)	10 min. (6.6%)	43 min. (28.2%)	32 min. (21.1%)	14 min. (9.2%)	17 min. (11.2%)	36 min. (23.7%)	152 min. (100%)

Figure E-10. TIME SPENT IN GROUPS OF VARIOUS SIZES DURING TOTAL INSTRUCTIONAL TIME.

Population	Teacher	Aide	Student Helper	Other	No One
Title I (N = 21)	86 min.	19 min.	0 min.	7 min.	3 min.
Migrant (N = 63)	58 min.	30 min.	8 min.	9 min.	3 min.

Figure E-11. ADULT CONTACT DURING FORMAL INSTRUCTION 1 (MULTI-CODED).

Population	Teacher	Aide	Student Helper	Other	No One
Title I (N = 21)	19 min.	8 min.	0 min.	1 min.	38 min.
Migrant (N = 63)	16 min.	6 min.	3 min.	1 min.	37 min.

Figure E-12. ADULT CONTACT DURING INFORMAL LEARNING ACTIVITIES (MULTI-CODED).

Population	Teacher	Aide	Student Helper	Other	No One
Title I (N = 21)	105 min.	27 min.	0 min.	8 min.	41 min.
Migrant (N = 63)	74 min.	36 min.	11 min.	10 min.	40 min.

Figure E-13. ADULT CONTACT DURING FORMAL INSTRUCTION 1 AND INFORMAL LEARNING ACTIVITIES. (MULTI-CODED).

Population	Teacher	Aide	Student Helper	Other
Title I (N = 21)	137 min.	64 min.	0 min.	9 min.
Migrant (N= 63)	106 min.	73 min.	31 min.	10 min.

Figure E-14. INSTRUCTIONAL INVOLVEMENT OF ADULTS WITH STUDENTS (MULTI-CODED).

Population	Teacher	Aide	Student Helper	Other	No One
Title I (N = 21)	99 min. (59.1%)	15 min. (8.9%)	0 min. (0%)	9 min. (5.2%)	46 min. (27.3%)
Migrant (N = 63)	63 min. (42.0%)	23 min. (15.5%)	7 min. (4.7%)	9 min. (5.9%)	48 min. (31.9%)

Figure E-15. AMOUNT OF TIME VARIOUS INDIVIDUALS WERE PRIMARILY RESPONSIBLE FOR THE INSTRUCTION.

Population	BECP	AISD	OTHER
Title I (N = 21)	<1 min. (.7%)	69 min. (85.1%)	12 min. (14.2%)
Migrant (N = 63)	27 min. (36.6%)	36 min. (48.3%)	11 min. (15.1%)

Figure E-16. TIME SPENT USING AISD, BECP, AND OTHER CURRICULA.

School	No Instruction	Formal Instruction	Informal Learning	Total Time
45	255 min.	90 min.	44 min.	389 min.
(N = 7)	(65.6%)	(23.1%)	(11.3%)	(100%)
46	233 min.	80 min.	76 min.	388 min.
(N = 7)	(59.9%)	(20.5%)	(19.5%)	(100%)
47	192 min.	138 min.	56 min.	386 min.
(N = 7)	(49.8%)	(35.7%)	(14.5%)	(100%)
48	242 min.	85 min.	60 min.	389 min.
(N = 7)	(62.5%)	(22.0%)	(15.5%)	(100%)
49	234 min.	75 min.	79 min.	388 min.
(N = 7)	(60.3%)	(19.2%)	(20.5%)	(100%)
50	243 min.	94 min.	56 min.	386 min.
(N = 7)	(60.9%)	(24.5%)	(14.6%)	(100%)
51	233 min.	69 min.	85 min.	387 min.
(N = 7)	(60.2%)	(17.8%)	(22.0%)	(100%)
52	221 min.	137 min.	29 min.	387 min.
(N = 7)	(57.2%)	(35.4%)	(7.4%)	(100%)
53	230 min.	95 min.	54 min.	379 min.
(N = 7)	(60.7%)	(25.1%)	(14.2%)	(100%)

Figure E-17. TIME SPENT IN ALL ACTIVITIES IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

School	Formal Instruction 1	Formal Instruction 2	Informal Learning 1	Informal Learning 2	Total Time
45	86 min.	5 min.	13 min.	31 min.	134 min.
(N = 7)	(63.2%)	(3.8%)	(9.9%)	(23.1%)	(100%)
46	80 min.	0 min.	3 min.	73 min.	156 min.
(N = 7)	(51.2%)	(0%)	(1.7%)	(47.1%)	(100%)
47	138 min.	0 min.	3 min.	53 min.	194 min.
(N = 7)	(71.1%)	(0%)	(1.6%)	(27.3%)	(100%)
48	76 min.	9 min.	8 min.	53 min.	146 min.
(N = 7)	(52.4%)	(6.2%)	(5.4%)	(36.0%)	(100%)
49	75 min.	0 min.	5 min.	74 min.	154 min.
(N = 7)	(48.5%)	(0%)	(3.3%)	(48.2%)	(100%)
50	94 min.	0 min.	4 min.	53 min.	150 min.
(N = 7)	(62.5%)	(0%)	(2.5%)	(35.0%)	(100%)
51	69 min.	0 min.	13 min.	72 min.	154 min.
(N = 7)	(44.8%)	(0%)	(8.3%)	(47.0%)	(100%)
52	123 min.	11 min.	13 min.	19 min.	166 min.
(N = 7)	(74.2%)	(6.7%)	(7.7%)	(11.4%)	(100%)
53	92 min.	3 min.	2 min.	52 min.	149 min.
(N = 7)	(61.5%)	(2.3%)	(1.2%)	(35.0%)	(100%)

Figure E-18: TIME SPENT IN INSTRUCTIONAL ACTIVITIES IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

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School	Breakfast	Lunch	Nap	Snack	Recess	Other	Total Time
45	21 min.	34 min.	65 min.	6 min.	16 min.	113 min.	255 min.
(N = 7)	(8.3%)	(13.5%)	(25.5%)	(2.2%)	(6.4%)	(44.1%)	(100%)
46	18 min.	28 min.	79 min.	8 min.	22 min.	78 min.	233 min.
(N = 7)	(7.6%)	(12.1%)	(33.9%)	(3.4%)	(9.3%)	(33.7%)	(100%)
47	17 min.	33 min.	58 min.	2 min.	4 min.	79 min.	192 min.
(N = 7)	(8.8%)	(17.1%)	(30.0%)	(0.8%)	(2.2%)	(41.1%)	(100%)
48	26 min.	32 min.	72 min.	5 min.	22 min.	87 min.	243 min.
(N = 7)	(10.6%)	(13.3%)	(29.5%)	(2.0%)	(8.9%)	(35.7%)	(100%)
49	25 min.	35 min.	79 min.	9 min.	23 min.	62 min.	234 min.
(N = 7)	(10.9%)	(14.9%)	(33.9%)	(4.0%)	(9.7%)	(26.7%)	(100%)
50	23 min.	34 min.	70 min.	6 min.	19 min.	83 min.	234 min.
(N = 7)	(9.6%)	(14.3%)	(29.9%)	(2.7%)	(8.0%)	(35.4%)	(100%)
51	19 min.	28 min.	59 min.	7 min.	34 min.	87 min.	233 min.
(N = 7)	(8.0%)	(12.0%)	(25.3%)	(2.8%)	(14.4%)	(37.4%)	(100%)
52	19 min.	32 min.	53 min.	7 min.	18 min.	92 min.	221 min.
(N = 7)	(8.4%)	(14.5%)	(23.9%)	(3.4%)	(8.1%)	(41.7%)	(100%)
53	19 min.	34 min.	67 min.	6 min.	14 min.	90 min.	230 min.
(N = 7)	(8.1%)	(15.0%)	(29.2%)	(2.5%)	(6.1%)	(39.2%)	(100%)

Figure E-19. TIME SPENT IN VARIOUS NONINSTRUCTIONAL ACTIVITIES IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

School	English	Spanish	Mixed	Undetermined	None	Total
45 (N = 7)	124 min. (96.2%)	2 min. (1.8%)	3 min. (2.0%)	0 min. (0%)	0 min. (0%)	129 min. (100%)
46 (N = 7)	153 min. (97.9%)	3 min. (1.8%)	<1 min. (<1.0%)	0 min. (0%)	0 min. (0%)	156 min. (100%)
47 (N = 7)	193 min. (99.6%)	<1 min. (<0.1%)	1 min. (0.3%)	0 min. (0%)	0 min. (0%)	194 min. (100%)
48 (N = 7)	137 min. (99.9%)	<1 min. (1.0%)	0 min. (0%)	0 min. (0%)	0 min. (0%)	137 min. (100%)
49 (N = 7)	154 min. (100%)	0 min. (0%)	0 min. (0%)	0 min. (0%)	0 min. (0%)	154 min. (100%)
50 (N =7)	120 min. (84.1%)	9 min. (6.4%)	10 min. (7.1%)	3 min. (2.4%)	0 min. (0%)	142 min. (100%)
51 (N = 7)	140 min. (90.7%)	2 min. (1.0%)	13 min. (8.3%)	0 min. (0%)	0 min. (0%)	154 min. (100%)
52 (N = 7)	148 min. (96.6%)	2 min. (1.3%)	3 min. (1.7%)	0 min. (0%)	1 min. (0.4%)	152 min. (100%)
53 (N = 7)	138 min. (94.9%)	1 min. (0.7%)	2 min. (1.7%)	4 min. (2.8%)	0 min. (0%)	145 min. (100%)

Figure E-20. LANGUAGE SPOKEN DURING TOTAL INSTRUCTIONAL TIME (FORMAL INSTRUCTION 1 AND INFORMAL LEARNING ACTIVITIES) IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

School	1	2-4	5-7	8-10	11-13	14 or More	Total
45 (N = 7)	5 min. (4.2%)	33 min. (25.8%)	39 min. (30.7%)	1 min. (1.0%)	1 min. (0.9%)	47 min. (37.4%)	126 min. (100%)
46 (N = 7)	9 min. (5.6%)	49 min. (31.4%)	20 min. (13.1%)	20 min. (12.6%)	7 min. (4.6%)	51 min. (32.8%)	155 min. (100%)
47 (N = 7)	10 min. (5.2%)	27 min. (13.8%)	58 min. (29.6%)	33 min. (17.2%)	3 min. (1.5%)	63 min. (32.6%)	194 min. (100%)
48 (N = 7)	9 min. (6.4%)	57 min. (42.5%)	6 min. (4.8%)	2 min. (1.6%)	14 min. (10.4%)	46 min. (34.4%)	135 min. (100%)
49 (N = 7)	15 min. (9.5%)	70 min. (45.7%)	1 min. (0.6%)	2 min. (1.4%)	45 min. (4.2%)	21 min. (1.9%)	154 min. (100%)
50 (N = 7)	9 min. (6.0%)	54 min. (35.9%)	37 min. (24.4%)	2 min. (1.3%)	12 min. (8.2%)	36 min. (24.3%)	150 min. (100%)
51 (N = 7)	8 min. (5.6%)	25 min. (18.1%)	33 min. (23.9%)	2 min. (1.3%)	43 min. (31.3%)	28 min. (19.9%)	139 min. (100%)
52 (N = 7)	8 min. (5.6%)	36 min. (23.9%)	31 min. (21.0%)	51 min. (34.5%)	21 min. (14.4%)	1 min. (0.7%)	149 min. (100%)
53 (N =7)	18 min. (12.1%)	30 min. (20.7%)	44 min. (30.2%)	12 min. (8.0%)	8 min. (5.6%)	34 min. (23.5%)	145 min. (100%)

Figure E-21. TIME SPENT IN GROUPS OF VARIOUS SIZES DURING TOTAL INSTRUCTIONAL TIME (FORMAL INSTRUCTION 1 AND INFORMAL LEARNING ACTIVITIES) IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

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School	Teacher	Aide	Student Helper	Other	No One
45 (N = 7)	55 min. (42.7%)	22 min. (17.0%)	12 min. (9.4%)	9 min. 6.6%)	31 min. (24.2%)
46 (N = 7)	52 min. (35.1%)	15 min. (10.0%)	7 min. (4.7%)	8 min. (5.2%)	67 min. (45.0%)
47 (N = 7)	87 min. (44.8%)	47 min. (24.2%)	10 min. (5.3%)	5 min. (2.6%)	45 min. (23.0%)
48 (N = 7)	52 min. (37.6%)	22 min. (16.2%)	0 min. (0%)	15 min. (10.6%)	49 min. (35.7%)
49 (N = 7)	73 min. (47.2%)	3 min. (1.9%)	0 min. (0%)	8 min. (5.2%)	70 min. (45.7%)
50 (N = 7)	51 min. (33.8%)	18 min. (12.3%)	13 min. (8.5%)	16 min. (10.8%)	52 min. (34.6%)
51 (N = 7)	64 min. (41.6%)	23 min. (14.9%)	0 min. (0%)	<1 min. (0.2%)	67 min. (43.6%)
52 (N = 7)	75 min. (50.0%)	40 min. (26.3%)	13 min. (8.4%)	8 min. (5.5%)	15 min. (9.8%)
53 (N = 7)	62 min. (44.1%)	21 min. (14.9%)	10 min. (6.8%)	11 min. (7.7%)	37 min. (26.6%)

Figure E-22. AMOUNT OF TIME VARIOUS INDIVIDUALS WERE PRIMARILY RESPONSIBLE FOR THE INSTRUCTION IN EACH MIGRANT AND SPLIT-FUNDED CLASS.

Early Childhood Observation Form 1980-1981

FILE ID: A P Q
OBSERVER NO: ______
OBSERVATION NO: ______
DATE __/__/__

				Activity			Instruc Involv				Instruc Reason					Adult Contact					Curric		
CARD	TIME	LANGUAGE	GROUP SIZE	NO INSTRUCT	INSTRUCTION	INFORM LEARN	TEACHER	AIDE	STUD HELPER	OTHER	TEACHER	AIDE	STUD HELPER	OTHER	NO ONE	TEACHER	AIDE	STUD HELPER	OTHER	NO ONE	BECP	AISD	OTHER
___1	:01																						
	:02																						
	:03																						
___2	:04																						
	:05																						
	:06																						
___3	:07																						
	:08																						
	:09																						
___4	:10																						
	:11																						
	:12																						
___5	:13																						
	:14																						
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___6	:16																						
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___7	:19																						
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___8	:22																						
	:23																						
	:24																						
___9	:25																						
	:26																						
	:27																						
___0	:28																						
	:29																						
	:30																						

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Early Childhood Observation Form 1980-1981

CARD	TIME	LANGUAGE	GROUP SIZE	Activity			Instruc Involv				Instruc Respon					Adult Contact					Curric		
				NO INSTRUCT	INSTRUCTION	INFORM LEARN	TEACHER	AIDE	STUD HELPER	OTHER	TEACHER	AIDE	STUD HELPER	OTHER	NO ONE	TEACHER	AIDE	STUD HELPER	OTHER	NO ONE	BECP	AISD	OTHER
1	:31																						
	:32																						
	:33																						
2	:34																						
	:35																						
	:36																						
3	:37																						
	:38																						
	:39																						
4	:40																						
	:41																						
	:42																						
5	:43																						
	:44																						
	:45																						
6	:46																						
	:47																						
	:48																						
7	:49																						
	:50																						
	:51																						
8	:52																						
	:53																						
	:54																						
9	:55																						
	:56																						
	:57																						
0	:58																						
	:59																						
	:60																						

FILE ID: A PQ

OBSERVER NO: ____

OBSERVATION NO: ____

DATE ___/___/___

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INSTRUCTIONS FOR USING THE EARLY CHILDHOOD OBSERVATION FORM

This observation instrument was developed to provide information for use in comparing Title I and Title I Migrant early childhood program classes. The observations in pre-kindergarten classes are day-long observations of single pre-k students.

Prior to the observation, the observer selects four students at random from the class to be observed. The first student selected is the student to be observed. The other three are backup students. In order to keep the teacher's knowledge of which student is being observed from influencing her behavior toward that child during the day, the observer asks the teacher to identify all four students. The name of the student under observation is not revealed to the teacher until the end of the day.

The information described below is then recorded on a minute-by-minute basis for the school day.

Card Number

The first column on the left indicates the card number on which the information on each three-line section of the observation form will be keypunched. The observer adds the necessary digits required to make the numbers consective from 1 to 130 for the school day.

Language

The predominant spoken language is coded for each minute except during breakfast, lunch, nap, snack and recess. The language coded is not limited to the language spoken by the teacher but is based on the total experience of the student during the minute. It is the language heard by the students under observation regardless of whether it is spoken by the teacher, aide, the student under observation, someone else, or a combination of these sources. The following codes are used to record language:

Blank = No language used. Silence.
1 = English was the predominant language.
2 = Spanish was the predominant language.
3 = An equal mixture of English and Spanish was heard.
4 = Undetermined (observer cannot hear).

Group Size

Group size is determined by the number of students involved in an activity with the student under observation. If no other students are involved in an activity with the observed student, group size is recorded as one. Therefore the group size is the number of students involved in the activity, including the student under observation.

Activities

Each minute of the school day is coded as belonging to one of the three following categories:

a. Formal Instruction: Formal instructional activities are those activities in which the student under observation works directly with an adult in a group or alone. The activities in which he or she is engaged are planned and have specific rules or expectations concerning student behavior. The key element is that the student's behavior is directed in some way by an adult.

Formal instructional activities are coded in one or two of the following manners:

1. A "1" is placed in the column under Formal Instruction for each minute the student under observation is engaged in a planned activity occurring under the direction of an adult.

   Formal instruction may occur outside of the regular classroom. For example, formal instructional activities occurring in the library or in other Early Childhood classrooms would be counted. (The observer in this case accompanies the students to the area and records whatever activity is occurring in the same manner as "inside the regular classroom" activities.) The exceptions to this rule are described below.

2. When students go outside the classroom to art, music, and PE, the time spent in these activities is coded with a "2" under Instruction. To record these activities the observer accompanies the student to the site of the class. Once the supervision by the new teacher begins, the observer leaves. A "2" is coded until the PE, music, or art instruction is completed. Regular coding begins again as the students line up and leave the room to go back to the regular classroom. No other information is coded when the students are at art, music, or PE.

b. Informal Learning Opportunities: There are also two classes of informal learning opportunities. Both types occur when the student is engaged in an activity where there is only incidental adult supervision or contact.

A "1" is coded when the student is working on a specific task following directions provided by the teacher. Activities coded under this classification are planned and are directed toward a specific outcome. For example, a student might be asked to create a Christmas scene using the materials provided or to build a house with blocks.

Activities coded with a "2" are those where the students are directed to a center to participate in "free play" activities. In these activities the student is not expected to produce a specific outcome. Examples are building something unspecified with blocks, playing house in the kitchen area, and reading a book. Another sort of activity coded with a "2" would be spontaneous opportunities "seized" by the teacher to make a noninstructional task instructional.

For example, if the teacher is passing out colored objects to students for some noninstructional purpose and she quizzes the students about the colors or remarks about the color each is receiving, then a "2" would be coded to record this spontaneous instructional event.

c. No Instruction: This classification pertains to activities which are not instructional; e.g., washing hands, standing in line, dividing students into groups, etc. Instructions for housekeeping and transition between activities are coded as no instruction. Six numbers are used to code different types of no instruction:

Breakfast = 2
Lunch = 3
Nap = 4
Snacks = 5
Recess = 6
Other = 1

If the student under observation awakens before the others during the nap time and begins doing something instructional, the proper instructional category is coded.

If the student under observation attends an assembly or participates in a planned "reward" activity (films, parties, etc.), the event should normally be coded as no instruction.
If the reward activity becomes an instructional activity, the event should be coded as Informal Instruction 2.

Adult Instructional Involvement

The adults who were "working with children" in an instructional capacity during the minute are recorded in this section of the form. The observer should record any involvement by adults in the class in activities which would be coded as "Formal Instruction" or "Informal Learning Opportunities" above. The adult's involvement does not have to be his/her predominant activity for the minute; i.e., even transitory involvement by an adult would cause the person to be coded. Neither does the involvement need to be with the student under observation. Adult instructional involvement is indicated by writing a "1" under the appropriate heading(s) (Teacher, Aide, Student Helper, and Other) for the minute.

Adult instructional involvement must be verbalized or made highly visible by the adult in charge. An example of verbalized and visible adult instructional involvement would occur if the teacher or aide introduced a new fingerplay to the students (verbal) and if the teacher or aide led the students in the fingerplay without saying another word after the introduction, a "1" would still be placed in the appropriate column under Adult Instructional Involvement.

There are times when adult instructional involvement is left blank during formal instruction. For instance, when children (the student under observation must be included in this group of children) are watching TV and the teacher or aide does not comment on what is being seen, instructional involvement is left blank and instructional responsibility is coded as no one.

Instructional Responsibility

This section of the observation form is used to record the person primarily responsible for the instruction occurring each minute for the child under observation.

Instructional responsibility is not coded during no instruction. While the teacher is ultimately responsible for the educational activities occurring in her classroom, she is not indicated for each minute. What is of importance here is the person taking the immediate responsibility for providing or supervising the instructional activity. The decision of which person to code is determined by who is "in charge" (i.e., who is the instructional leader) during the minute.

An example. The aide is sitting at a table with a group of students watching them work on some instructional activity. Occasionally she makes comments to students about the work they do. The teacher walks by the table and stops for a few minutes to comment on the work being done by the students. How should such a situation be coded? Unless the teacher, during her time at the table, changes the nature of the task or in some other way indicates that she is "taking over" the lesson, the aide would be coded. Only one person is coded under this category for each minute. If the responsibility for the instruction is absolutely equally divided between two persons, then the person appearing first on the form as you move from left to right is coded. In this example, if the teacher joined the group and she and the aide shared equally in the leadership provided to the students, the teacher would be coded.

The observer records instructional responsibility by placing a "1" under one of the following headings:

a. Teacher
b. Aide
c. Student Helper
d. Other
e. No One

Adult Contact

Adult contact is recorded each minute formal instruction or informal learning opportunity is coded. To record adult contact, the observer puts a "1" under the heading for each adult having contact with the student under observation during the minute. The observer should record any adult contact regardless of its instructional content or length of occurrence.

For the purpose of this observation form, any verbal statement addressed to the student under observation or the group to which he belongs or any physical contact between an adult and the student under observation is to be recorded as adult contact. Records or films do not constitute adult contact. If students are watching a film under adult supervision and the adult does not speak to or touch the student under observation, no adult contact is coded. If no adult contact occurs during the minute, "No One" is coded.

Curriculum Source

The information collected on this part of the form documents the amount of time spent in activities from different sources and is not coded during the actual observation. The point of transition into and out of each activity both formal and informal should be clearly marked on the coding sheet. In addition, notes in the notes column should clearly describe each formal or informal activity. At the end of the school day the observer will ask the teacher about the source of each formal activity (informal activities are not coded) so the activities can then be correctly recorded following the definitions given below.

a. BECP: A "1" is placed under this heading for each minute the student spent in an activity taken from the Bilingual Early Childhood Program (BECP) Curriculum. Activities from the BECP are likely to be found only in Title I Migrant early childhood classes.

   This column is also coded if the teacher and students engage in an activity which she developed using ideas from the BECP curriculum.

b. AISD: A "1" is placed under this heading for each minute the student spent in an activity from the curriculum developed for the Title I early childhood classes and are used in Title I Migrant classes as supplementary activities.

   As in the case of coding BECP, this column is also coded if the teacher and students engage in an activity which was developed using ideas or suggestions from the Title I early childhood curriculum.

c. OTHER: This column will not be used during analysis of data gathered with the coding sheets during the 1979-80 school year.

There are two instances during formal instruction when neither BECP or AISD curriculum sources are coded. They are as follows:

a. the teacher developed the activity completaly on her own.

b. early childhood (Title I and Migrant) classes merge for a joint activity. All other categories such as instruction, instructional involvement, instructional responsibility and adult contact are coded.

Notes

The notes column on the form is important for recording descriptive information. This information can be useful in interpreting the results with the teacher. The notes column is also important in checking the form for coding errors after the observation has been completed. Each activity should be briefly described in this section.

Attachment E-4
(Page 1 of 2)

Considerations and Steps Taken in Determining Observation Days for the Pre-Kindergarten Observations

Considerations:

A. Time frame for the observations was December 1, 1980 through May 1, 1981.

B. Two observers were hired. One could only work Wednesdays and Thursdays. The other could work 2/3 days a week--preferably Tuesday, Wednesday, and Thursday.

C. Since not all classes could be observed on both Monday and Friday, all Mondays and Fridays were excluded from possible observation days.

D. All staff development days (January 16 and March 20) were excluded, as were days before and after holidays. In the case of the Christmas holidays, the last observation was scheduled for two days before the holidays.

E. There were 84 full day observations to be conducted--3 for each of the 7 Title I classes and 7 for each of the 9 Migrant classes (including the two 50% Migrant/50% Title I classes).

F. With all exclusions, there were 56 possible observation days in which to do the 84 observations. One observer could do 37 observations if she worked every Wednesday and Thursday in that time frame. This left 47 observations to be conducted by the second observer on Tuesday, Wednesday, and Thursday.

G. The observations were broken into three relatively equivalent time periods:

Interval	No. of Weeks	Observations
1) December 1 → January 30	7 weeks	#1-28
2) February 1 → March 13	6 weeks	#29-57
3) March 16 → May 1	6 weeks	#58-84

H. Each observer should observe each Title I class once and each Migrant class 3 to 4 times.

I. During each of the three time intervals, each Title I class should be observed once and each Migrant class at least twice.

J. As much as possible all of teacher X's observations should not always be on Tuesdays, etc.

Steps:

1. A list was numbered from one to 84.

2. Each Title I class was randomly assigned three times to different numbers on the list, one school name per number.

3. Each Migrant class (and the 2 split-funded classes) were randomly assigned seven times to different numbers on the list, one school name per number.

4. The observations were then randomly reassigned to be sure Considerations H, I, and J were met.

Note: Observations were conducted even if a substitute was present. Due to observer sickness, observer car trouble, and a classroom being painted, some observations were reshuffled. Considerations H, I, and J were met.

80.71

Attachment E-5

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

November 18, 1980

TO: Title I and Title I Migrant Pre-K Teachers
Principals with Title I and Title I Migrant Pre-K Teachers

Catherine Christner

FROM: Catherine Christner, Title I Migrant Evaluator

SUBJECT: Pre-K Observations

As in the past, day-long observations will be conducted in Migrant and Title I pre-K classes. This year Title I has its observation resources tied up at the elementary level, so the observations will all be conducted by Title I Migrant. Each Migrant classroom (including Oak Springs and Ridgetop) will be observed seven times and each Title I classroom will be observed three times. The Title I classrooms are being observed as a control/comparison group for the Title I Migrant classrooms.

The observers will be using the same observation form used last year. The things to be observed are described on the attached pages.

The observations will begin in the first week of December. The principal and the teacher will be notified the week that observations are to occur, but not the exact day.

Past experience has shown that classroom observations do not upset the normal classroom activities. The observers have been trained to ensure that this remains true. If you have any questions, please feel free to call me at 458-1227.

Approved: Freda M Holley
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

CC:rrf
Attachment

cc: David Doss
Lee Laws
Oscar Cantú
José Mata
Timy Baranoff

Attachment E-6
(Page 1 of 2)

EARLY CHILDHOOD OBSERVATION FORM: DESCRIPTION OF THE CATEGORIES

Language

The predominant spoken language heard by the students regardless of the source (student, teacher, etc.) is coded for each minute except during breakfast, lunch, nap, and recess.

Group Size

Group size is determined by the number of students involved in an activity with the student under observation. If no other students are involved with the observed student, group size is recorded as one.

Activities

Each minute of the school day is coded as belonging to one of the three following categories:

a. No Instruction: This classification pertains to activities which are not instructional; e.g., washing hands, standing in line, dividing students into groups, etc.

b. Formal Instruction: Those activities (usually under adult direction and supervision) which have been planned are coded as formal instruction.

c. Informal Learning Opportunities: Informal learning activity such as building with blocks or looking at a book. This category also includes activities which would normally be coded as "No Instruction" if there is a clear attempt by an adult to make the activity instructional. For example, lining up to go to lunch would be considered an informal learning if the teacher asked the students to group themselves in lining up by the color of their clothing.

Adult Instructional Involvement

The adults who are "working with children" in an instructional capacity anywhere in the classroom during the minute are recorded in this section.

Instructional Responsibility

This section is used to record the person primarily responsible for the instruction occurring each minute for the child under observation.

Adult Contact

Adult contact is coded to show which adults have contact with the student under observation during each minute of formal instruction or informal learning opportunity.

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Curriculum Source

Each minute of formal instruction is attributed to one of three curriculum sources:

a. BECP: An activity taken from the Bilingual Early Childhood Program (BECP) curriculum.

b. AISD: An activity from AISD Early Childhood curriculum.

c. Other: An activity developed by the teacher or taken from a source other than the ones listed above. Adaptations of the AISD or BECP curricula are coded under those headings.

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Attachment E-7

80.71

AUSTIN INDEPENDENT SCHOOL DISTRICT
Office of Research and Evaluation

TO: Title I and Title I Migrant Pre-K Teachers

FROM: Catherine Christner Catherine Christner

SUBJECT: Pre-K Observations

Cynthia Agnell and Jane Mack will be conducting the pre-kindergarten observations this year. Mrs. Agnell or Mrs. Mack will be visiting your classroom sometime during the week of:

____

to observe the classroom activities. Following each observation, the observer will share her notes with you, and within the following week, you will get a copy of her notes.

If you have any questions or concerns about the observations, please feel free to call me at 458-1227.

Approved: Freda M. Holley
Director, Office of Research and Evaluation

Approved: Roberta Hartung
Acting Director, Elementary Education

CC:rrf
cc: José Mata
Lee Laws
Oscar Cantú
Principals of Title I Migrant and Title I Pre-K Teachers

Attachment E-8

Classroom Observation Reaction Form

Austin Independent School District

If you wish to comment on today's observation of your classroom, please respond to these items and/or write any additional comments which would help us improve the observation process.

Circle the most appropriate choice.

A. The observation was conducted at a convenient time.

Completely False	Mostly False	Partly False Partly True	Mostly True	Completely True
1	2	3	4	5

Comments:

B. The classroom situations observed were representative of the normal activities of my class.

Completely False	Mostly False	Partly False Partly True	Mostly True	Completely True
1	2	3	4	5

Comments:

C. The classroom observer did not detract from the classroom activities nor the effectiveness of instructional activities.

Completely False	Mostly False	Partly False Partly True	Mostly True	Completely True
1	2	3	4	5

Comments:

Other comments concerning the observation:

Observation I.D. ______________________________

Please fold, staple, and drop into the district mail. Thanks.

Page 1 of 2

FILE ID A / P / Q

CARD FILE LAYOUT

LOCATION:

___AISD___

___UT PF___,___,___
acct. pass. file name

80.71

PROGRAM: Title I Migrant

YEAR: 1980-81

CONTENTS: Pre-Kindergarten Observations - Migrant & Title I

Field	Columns	Description
A	1 - 3	APQ
B	4 - 5	Class Assignments by School (See Attached School List)
C	6 - 6	Observer Number 6 = Jane Mack 7 = Cynthia Agnell
D	7 - 8	Observation Number
E	9 - 11	Card Number (Note - there are 130 cards per observation)
F	12 - 12	Language 0 = No Language 2 = Spanish 4 = Undetermined 1 = English 3 = English & Spanish
G	13 - 14	Group Size (Number Listed)
H	15 - 15	No Instruction 1 = Other 3 = Lunch 5 = Snack 2 = Breakfast 4 = Nap 6 = Recess
I	16 - 16	Formal Instruction (1 or 2)
J	17 - 17	Informal Learning Opportunities (1 or 2)
K	18 - 18	Teacher (1)
L	19 - 19	Aide (1)
M	20 - 20	Student Helper (1)
N	21 - 21	Other (1)

Instructional Involvement

E-35

Attachment E-9
(Page 1 of 2)

Page 2 of 2

FILE ID A / P / Q

CARD FILE LAYOUT

LOCATION:

PROGRAM: Title I Migrant

AISD

YEAR: 1979-80

UT PF_____,_____,_____
acct. pass. file name

80.71

CONTENTS: Pre-Kindergarten Observations--Migrant & Title I

Note - each card contains 3 minutes of observation data.

Field	Columns	Description	
O	22 - 22	Teacher (1)	Instructional Responsibility
P	23 - 23	Aide (1)	
Q	24 - 24	Student Helper (1)	
R	25 - 25	Other (1)	
S	26 - 26	No One (1)	
T	27 - 27	Teacher (1)	Adult Contact
U	28 - 28	Aide (1)	
V	29 - 29	Student Helper (1)	
W	30 - 30	Other (1)	
X	31 - 31	No One (1)	
Y	32 - 32	BECP (1)	Curriculum Used
Z	33 - 33	AISD (1)	
AA	34 - 34	Other (1)	
	35 - 57	Repeat pattern of fields F -> AA for the next minute of observation .	
	58 - 80	Repeat pattern of fields F -> AA for the next minute of observation .	

Attachment E-9
(continued, page 2 of 2)

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Attachment E-10

PRE-K SCHOOL LIST - OBSERVATIONS

01 = Brown 1
02 = Brown 2
03 = Maplewood
04 = Norman
05 = Ortega
06 = Rosewood
07 = Sims

TITLE I

08 = Ridgetop
09 = Rosewood

50% TITLE I/50% MIGRANT

10 = Allison
11 = Brooke
12 = Dawson
13 = Metz
14 = Ortega
15 = St. Elmo
16 = Sanchez

MIGRANT

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